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THE MENOPAUSE

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Editorials

The Blood-Flecked Crowns of Europe

In the British royal family we find one of the most interesting examples of a hereditary family bequest in the form of what Ralph Major, in his well known book, *Disease and Destiny* (D. Appleton-Century Company, 1936), dubs the "legacy of bleeding."

Hemophilia is an ailment of rather distinctively Teutonic source, and, of course, Queen Victoria was wholly German. She was the carrier through whom the disease was transmitted along Mendelian lines to her son Leopold, Duke of Albany, to her great-grandson Alexis of Russia, and to her great-grandson the Spanish Prince of the Asturias. To Queen Victoria had been bequeathed, by way of her mother, Victoria Mary Louisa, wife of the Duke of Kent, this malignant family skeleton.

Hemophilia is transmitted only by certain females of a family and appears only in certain of the male progeny (Law of Nasse). The female is always immune (Bullock and Fildes, 1919; Bauer, Fisher and Lenz, 1931; John C. Otto, 1803; Christian Nasse, 1820; Davidson and McQuarrie, 1925; Maximilian Chelius, who inaugurated, in 1826, a century-old study of the Mampels, a hemophiliac family, a report on this work appearing in 1926 from the Surgical Clinic of the University of Heidelberg).

It appears to be perfectly clear, then, that the transmission was direct in the case of the Duke of Albany; through Princess Alice and the Czarina Alexandra Alix of Russia in the case of Alexis; and through Princess Beatrice and Queen Victoria Eugénie of Spain in the case of the Prince of the Asturias.

In Laurence Housman's *Victoria Regina* some interesting details are offered bearing upon this subject. Thus, when the health of Albert and Ernest, the two Saxe-Coburg-Gotha princes who were wooing their first cousin, Queen Victoria (whose mother was the sister of the princes' father), is discussed by Lord Melbourne, the Prime Minister, and Mr. Tudor, British Minister to the Court of Saxe-Coburg-Gotha, the question of first cousins marrying comes up, and Melbourne says, significantly, "Cousins of that stock marrying may be *fatal*." However, despite Melbourne's candid protest to the Queen herself, on the general score of consanguinity, Victoria selected Prince Albert and shortly after the marriage an interesting dialogue takes place. Albert is shaving and Victoria asks him if he has ever been cut. Albert tells her that he was once cut by a valet who was shaving him.

The Queen. And then?

Albert. Then the Court Physician came running in a terrible fright, for the man having told him. He thought to find me bleeding to death.

The Queen. To death? Why?

Albert. Because, my Dear, my brother Ernest—and his father—once so nearly did. But that did not happen to *me*..... What I told you makes the difference.

In an earlier passage Albert, before the marriage, has told Victoria about the circumstances of his birth as the result of his mother's affair with a lover. He evidently fancied that his brother Ernest had derived the disease from his father, while he, Albert, owed his immunity to the fact of his illicit paternity. Actually, his mother had transmitted the disease to Ernest but not to Albert. Here we have an interesting instance of a carrier, the Grand Duchess, married to a victim of the disease, the Grand Duke.

Albert, then, was normal, and Victoria, his cousin of a sort, the transmitter of the hemophilia which had plagued her own line and was to plague her descendants.

But to York, now King George VI., and to his daughter, Princess Elizabeth, next in line for the British throne, no vestige of hemophilia attaches, since Queen Mary, mother of York, and the new King's wife Elizabeth, of the house of Strathmore, are normal in this respect, as was also Alexandra of Denmark

Compulsory Sickness Insurance

Our ECONOMICS department carries this month the answer of Dr. Floyd S. Winslow, President of the Medical Society of the State of New York, to an article written in Washington, D. C., by Mr. Albert L. Warner, and published in the *New York Herald-Tribune* on November 23, 1936. Mr. Warner's article informed the country that the Social Security Board had initiated a study looking to the possible proposal of a major addition to the social security system in the shape of sickness insurance. He goes into the subject at some length with apparent impartiality, but one nevertheless gets the impression when reading his article that sickness insurance is looming and will probably soon be a reality. Can it be that this apparently innocent piece of journalism was launched as a trial balloon? If that is the case Dr. Winslow's answer is the answer of the profession and, we believe, of the country.

The medical profession favors public health programs but it is unalterably opposed to the principles and practice of compulsory sickness insurance, and believes that the country is similarly opposed.

We believe that the President of the United States did not speak with his tongue in his cheek when, on October 2, 1936, at the Jersey City medical center, he said:

"The medical profession can rest assured that the federal administration contemplates no action detrimental to their interests. The action taken in the field of health as shown by the provisions of the splendid Social Security act makes this clear. There are four provisions in the Social Security act which deal with health, and these provisions received the support of outstanding doctors during the hearings before Congress.... This in itself insures that health plans will be carried out in a manner compatible with our traditional social and political institutions. Let me make that point very clear.... Public support is behind the program. But let me stress, in addition, that the act contains every precaution for insuring the continued support and co-operation of the medical profession."

The Curet

A curet is an instrument shaped like a spoon, designed for the removal, by a scraping, tearing or cutting action, of pathological tissue in the lining of the uterus. This instrument was first introduced by Récamier in 1846. Many early authorities pronounced its use in curettage of the uterus to be barbarous and unscientific. In spite of this, the use of the curet has become an everyday procedure. With advances in the theory of menstruation, in endocrinological knowledge of the female reproductive organs, and in early diagnosis of carcinoma of the body of the uterus, this instrument has been further popularized. As a result, it has become a very important tool in the armamentarium of the present-day gynecologist. It is used in the operation which is commonly termed curettage. While the use of the curet is an important aid in modern gynecological diagnosis, still it is responsible for many unreportable deaths through its misuse. Our maternal mortality statistics in the United States are extremely high (in comparison to foreign countries), but if the lists of deaths occurring yearly as a result of the indiscriminate use of the curet were included, our death list would be appalling. Like the uterine sound, the curet has been greatly abused.

Most gynecologists limit its use to the study of the endometrium for diagnostic purposes and occasionally for the treatment of inevitable incomplete abortion. A curettage is indicated in all cases of abnormal uterine bleeding, especially at or near the menopause. Bleeding during the climacteric period should always be looked upon with suspicion. Moreover, although a patient has already been curetted once, should she return a year or more later with an abnormal flow, a fresh study of the endometrium should be made. Postpartum uteri with subinvolution and a positive Aschheim-Zondek test in high dilutions are very suggestive of choriocarcinoma, and curettage is indicated for diagnosis.

Curettage in the presence of uterine or pelvic infection is to be severely condemned. Similarly all cases of amenorrhea with a positive Aschheim-Zondek test or any suggestive signs of pregnancy should not be curetted. Incomplete abortion after eight weeks should be emptied by the sponge stick, finger or combination of both.

There are a number of dangers associated with the use of the curet. The most common are: (1) infection, (2) perfora-

tion of the uterine wall, (3) hemorrhage.

Since numerous bacteria are constantly present in the vaginal tract and uterus, the dangers of the curet in the puerperal uterus are those in the nonpuerperal uterus intensified. The curet breaks through the wall of leukocytes and spreads the infection, allowing bacteria free access to the lymph channels, and to the venous radicles in the uterine wall. In the soft puerperal uterus bacteria pass beyond the reach of the curet and invade the deeper tissues and subsequently enter into the blood stream with resulting septicemia and peritonitis. Besides perforation, hemorrhage and air embolism are actual possibilities when the curet is used. Hence, it should never be used in the puerperal uterus.

Perforation is apt to take place in the hands of the experienced and inexperienced alike, when the wall is soft, as after abortion, or as a result of an infiltration of a rapidly growing malignancy, or when it is abnormally thin. The puerperal uterus is soft and can very easily be perforated. The senile uterus or the soft and friable uterus of malignancy can be perforated with the resulting sequelae of hemorrhage, infection and death. A great number of uterine perforations are unnoticed and take care of themselves with no untoward results. On the contrary, intestinal damage has been caused by the curet. Perforation of the small and large intestine with a resultant peritonitis and death has not been an uncommon result.

In the course of the routine hospital gynecological service, a number of perforated uteri are encountered in the course of the year as the result of the indiscriminate use of the curet, or even sometimes through its use in the hands of the experienced. These cases are very serious complications, since besides the blood loss there is always a danger of infection with resultant peritonitis.

While it is customary to speak of curettage of the uterus as a simple operation it demands the same care as to asepsis and technic as any major operative procedure. The dangers of curettage, namely, infection, perforation, and hemorrhage of the uterine wall with resultant peritonitis, make this operation a very risky one. The list of deaths that occur yearly would be appalling if published. Although this procedure has a definite place in gynecology, still the curet is a very dangerous instrument if indiscriminately used. Hence, it should be considered criminal to use this instrument in the presence of infection, or in the production of a therapeutic abortion, or in the course of an inevitable incomplete abortion after eight weeks. The main and only purpose of the curet should be confined to the removal of endometrial tissue for the purpose of microscopical examination. This is applicable to all cases of abnormal uterine bleeding or suspicious uterine discharges at the menopause. It should never be used in cases of amenorrhea unless a negative Aschheim-Zondek test is present. In persistent postpartum or postabortal uterine bleeding, the curet should be used to obtain endometrial tissue for diagnosis in the presence of a positive Aschheim-Zondek test to rule out the presence of choriocarcinoma. In conclusion, although the curet has a definite place in gynecology for the diagnosis of abnormal uterine bleeding, for removal of the contents of the uterus following abortion, and for the study of endometrial changes, its use has been unduly expanded, indeed popularized. Hence, we must bear in mind that this instrument is a very dangerous weapon when indiscriminately used.

V.P.M.

Medical Classics

We are greatly intrigued by the plan of Dr. Emerson Crosby Kelly, of the Department of Surgery of the Albany Medical College, to publish a monthly journal which will reprint the papers that have made medical history. Thus Volume I, Number 1, September, 1936 (Williams and Wilkins Company), contains three famous articles by Sir James Paget. Some of the papers already selected, and that will appear in future issues, are by Addison, Argyll Robertson, Billroth, Bright, Colles, Dupuytren, Graves, Halsted, Holmes, Jenner, Koch, Lister, McBurney, McDowell, Murphy, Parkinson and Pott.

The series will be continued as long as necessary to include a complete catalog of all papers worthy of inclusion—probably about five years.

This project is a most stimulating g'orification of Camac's *Epic-making Contributions to Medicine, Surgery and the Allied Sciences* and of Major's *Classic Descriptions of Disease.* It is one more indication of the increasing interest in cultural medicine. It should help greatly in augmenting further interest.

Since the Editor has asked for cooperation, we suggest that along with McBurney's paper on his famous "point" in acute appendicitis, which is listed for reprinting as one of our classics, there be republished the study of Robert T. Morris in which his equally useful "point" in chronic appendicitis is described [*American Journal of Obstetrics* 60:870-874 (November) 1909].

Congress, the Army Medical Library and the Index Catalogue

The neglect of Congress to provide sufficient funds for the Army Medical Library and the *Index Catalogue* is passing strange when one considers their significance in the medical scheme of things in America. Health and hygiene, and the learning and skill which buttress them, are wholly dependent upon just such instrumentalities. These things do not as yet mean what they should mean to supposedly enlightened legislators.

The January Congress will have an opportunity to redeem itself in this deplorable matter. Will responsibility be dodged again?

The late Dr. William H. Welch, Nestor of American medicine, just before his death, listed the really great contributions of this country to medical knowledge as:

1. The discovery of anesthesia.
2. The discovery of insect transmission of disease.
3. The development of the modern public health laboratory, in all that the term implies.
4. The Army Medical Library and its *Index Catalogue*, the most important of the four.

In 1921 Welch had written:

> I question whether America has made any larger contribution to medicine than in building up and developing the Surgeon-General's Library and in the publication of the *Index Catalogue* and the *Index Medicus*.

Genes Past, Present and to Come

Dr. Oscar Riddle, of the Carnegie Institution, offers the hope that "a few new and helpful genes may arise and be incorporated into the race within the next scores of thousands of years." What we especially need is a gene to help straight thinking, he says, "and then perhaps another one which would so act on the mental traffic as sometimes to give the intellect the right of way over the swarming emotions." Then we should "shed the skin of myth and emotion and build intellectual horizons anew."

Our past and present assortment of genes seems to have gotten our mental wires badly crossed. Paraphrasing John Steegman, we had, before 1930, become commercially so prosperous that there was not much time for honesty, and politically so democratic that there was not much demand for intelligence.

Dr. Riddle is encouraging, even though he does predicate scores of thousands of years as requisite for improvement. We thought it was even worse than that.

The State Looks at Medicine

Reginald Fitz sees the State raised to a stronger position for control in the field of medicine as a result of the depression. He speaks specifically about Massachusetts, but what he here has to say applies pretty much to the general situation in the country. Medicine's development was intimately related to that of American industrial life, and the charitable rich financed much of the former. Now it is simpler for the State to finance medicine. From 1920 to 1930, when the country's income was becoming larger and larger, medicine over-expanded. "New and expensive hospital plants were established, old hospitals were made over, new laboratories were built, new and expensive hospital equipment was manufactured and sold. When the depression came there was no longer money available to carry on the great overhead expense that had been set up." But the State has continued its medical work untrammeled, regardless of the depression; money has been forthcoming to promote the public health. Dr. Fitz regards the trends and the changes complacently, taking a long-range philosophic view of a development that, given all the social facts adduced by him from the history of the long and continually growing health control by State agencies, has many of the earmarks of inevitability. The depression merely sped the process.

Doubts and Fears in Certain Years

Each and every year appear reminders from the heads of our medical schools that the entering freshmen have been chosen by scrupulous selection from hordes of applicants, and that they constitute a unique aristocracy indeed. These announcements to the profession usually run about as follows:

> Each one of them [the freshmen] represents a selection out of about fifteen men who applied for admission to their class. They were selected because those who studied their credentials and

interviewed them felt they were the type who, one day, would make physicians who would reflect credit on the profession. We hope they will not fail their selectors. We hope those who gave them the opportunity to be this year's freshmen honestly tried to be fair and designate those they thought the best. It was a hard task. Every man who falls by the wayside and betrays the trust put in him has prevented someone else from studying medicine. This holds true of the freshmen in medicine throughout the land. We hope that when next June arrives each and every class will move on to the sophomore year.

All true, and yet there have been years when we have had our doubts. In those dubious years we have wondered whether the announcements indicated a rich sense of humor—or a total lack of it. And we have wondered what, in the name of heaven, the rejected personnel must have been like.

Ballantyne's Obstetric Prophecies

John William Ballantyne, M.D., F.R.C.P., F.R.S. (1861-1923), Lecturer on Midwifery and Gynecology, Surgeons' Hall and Medical College for Women, Edinburgh, and Physician to the Royal Maternity and Simpson Memorial Hospital, Edinburgh, delivered an inaugural presidential address on November 14, 1906, before the Edinburgh Obstetrical Society, on The Future of Obstetrics (*Transactions of the Edinburgh Obstetrical Society*, 32:3, 1906-7; *Scottish Medical and Surgical Journal*, Edinburgh, 20-101, 1907).

In an imaginary telephone conversation, on the "Time Exchange," with the president of the 1940 Edinburgh Obstetrical Society, Ballantyne tells us what he expects will be realized obstetrically by that year of grace. It is really a wish fulfilment fantasy that he gives us, and although 1940 is still several years away we might as well inquire into what thirty years have brought forth in line with Ballantyne's prophecies and what still remains to be realized.

In the first place, Ballantyne sees the old didactic lecture system entirely superseded by instruction (in its strict etymological sense), with much demonstrative, constructive and bedside work. An electrically operated "phantom" figures much in the elementary teaching. This phantom illustrates graphically the whole mechanism of labor, with the rate regulated to a nicety and interruption of the process possible at any time. A student conducting a delivery and making a mistake can be checked at any time and shown the correct technic. The pelvis can, of course, be deformed in any way by switchboard control and the heads of the phantom fetuses are capable of natural moulding.

The cumbrous and uncertain phantom aforesaid is superseded in advanced classes by kinematographic devices. By perfecting the methods of obtaining differential roentgenograms, it is possible to screen all internal obstetric processes as they occur. Moving pictures of glorified fluoroscopic images seem to be in Ballantyne's mind. By means of the "neophone" the fetal heart sounds and the uterine bruit are accurately reproduced. A super-gramophone records all maternal and infantile vocal phenomena.

The microkinematograph screens all embryological processes and organogenetic readjustments for teaching purposes. An automatic registering gramophone is used for oral examinations, excluding all conscious and unconscious bias in the testing of candidates for degrees.

All the learned societies of the world are in touch with each other by audible transmission of the voice. One can switch on to any program for as long as one desires. Ballantyne fancies that this audibility all over the world will make speakers very careful as to statements, claims of priority, etc. The idea of television does not, however, occur to Ballantyne.

A tocophoric serum is obtained from the blood of pregnant animals which have been treated with cultures from the blood of a human placenta. It induces labor safely, speedily and certainly. The day and hour of a labor and delivery can be definitely fixed, particularly in the presence of medical or obstetric reasons calling urgently for the interruption of pregnancy.

The safety of the infant is enormously enhanced, in order to offset the falling birth rate, by advancement in our knowledge of the pathology of pregnancy. Moreover, neonatal mortality is greatly reduced through improved methods of keeping the babies alive.

Ballantyne draws a gruesome picture of a new institution, the experimental "City without a Child"—product of intensive birth control. He sees it failing because of an alarming increase in suicide and lunacy.

Normal labors are conducted at maternity sub-centers, scattered over all our larger cities. Complicated and operative labors are cared for at a central institution.

The most striking point in Ballantyne's address is his picture of a completely realized universal prenatal care program, extending from the beginning of pregnancy to full term. "The obstetrician of 1940 finds it difficult to understand why his brethren of the early part of the century paid so much attention to the one month of the puerperal period and so little to the nine months of pregnancy. To him the time of preparation for labour was not less but more important than the time of recovery from the effects of labour, for he found that if the former was normal the latter was little likely to be pathological."

Ballantyne's telephone communicant pictures the establishment everywhere of pre-maternity hospitals, for the reception and care of normally ambulant pregnant women as well as for the maternal and fetal victims of the maladies of gestation. This vision Ballantyne had already published in the *American Journal of Obstetrics* (May, 1901) and in *Der Frauenarzt* (September 20, 1901).

Ballantyne sees a maximum conservation of fetal life through improved and properly applied cesarean section and the induction of premature labor under suitable conditions.

Our prophet strikes one curious note. He sees some connection between great philanthropic movements and noteworthy life-saving and pain-relieving discoveries. Thus the abolition of slavery in the British possessions was followed by the discovery of anesthesia. Ballantyne suggests that the discovery of the cure of cancer may hang in some way upon the abolition of war.

At the end of his message Ballantyne discloses that his informant, the 1940 president of the Edinburgh Obstetrical Society, is a woman.

Well, we have four more years to go before another check-up on the vision of this man whose imagination was not limited to dreams of this character, but who left a list of solid achievements in his works on fetal pathology (1882-5), teratogenesis (1897), and antenatal pathology and hygiene (1902-4).

LABORATORY OF PATHOLOGY IN THE SMALL HOSPITAL

According to HOWARD T. KARSNER, Cleveland (*Journal A. M. A.*, April 25, 1936), in order to provide proper care for the patients the smaller hospitals must offer an adequate laboratory service. The amount of space to be allotted for the laboratory depends in certain measure on the amount and variety of work contemplated. In the life of a hospital plant the space originally assigned is usually smaller than what is ultimately required. An estimate of the needs for a general hospital is in the neighborhood of 2,000 square feet of laboratory space for each 100 beds. Work in a laboratory is not entirely dependent on floor area. Nevertheless every effort should be made to avoid cramped quarters. The equipment should provide for the more common and less complicated examinations. Thus it is necessary to make provision for the qualitative examinations of urine, blood, gastric contents and feces, as well as several of the less complex quantitative tests. If at all possible, provision should be made for the immediate chemical examination of the blood for carbon dioxide combining power, total nitrogen and sugar content. Blood typing and simpler bacteriologic tests are essential. Most hospitals with any considerable surgical service require equipment for the preparation of material for histologic examination. Decision as to whether or not the complement fixation or other tests for syphilis shall be performed in a small hospital laboratory is often difficult. It must be decided on consideration of the training of the technician and the unit cost. It is almost certainly uneconomical to perform the Wassermann tests unless there are about 200 a week to be done. The personnel of the laboratory includes a director, house staff, technicians, and in some instances a record clerk. The number of technicians to be employed depends on the size and character of the hospital and the volume of work required.

THE TREATMENT OF CONGENITAL SYPHILIS

JOHN F. COPPOLINO, M.D., Philadelphia, Pa.

THE treatment of congenital syphilis is perhaps best discussed from three standpoints: first, prophylaxis, second, indications for treatment, and third, active treatment.

Prophylaxis

Since it has been accepted that transmission of syphilitic infection to the infant is from the maternal circulation by means of the placenta, it has been shown that congenital syphilis is largely a preventable disease and can be practically eradicated by the active treatment of the infected pregnant woman.

Although no fixed conclusions have been drawn as to the minimum amount of treatment necessary, nor at what period of pregnancy such treatment must be instituted to prevent transmission of infection, nevertheless certain recommendations can be made: 1. That treatment be begun as early as possible during pregnancy, preferably in the first trimester. It is advisable, however, that treatment be instituted even late in pregnancy, as one or two injections appear to exert a favorable influence. 2. Once therapy has been started, it should be continued to term. 3. Neoarsphenamine seems to be the drug of choice, either alone, or, perhaps, combined with bismuth. If these recommendations are pursued, one may reasonably expect an infant free from syphilis.

Indications for Treatment

At the present time, there seem to be three schools of opinion as to which infants should receive antisyphilitic treatment. 1. There is that group that advocates immediate treatment of each infant or child upon the discovery of a positive reaction in the mother. Some authors go even so far as to say that therapy should be instituted if the father alone shows a positive serological reaction. 2. There is that group that is of the opinion that all infants born of syphilitic mothers, treated or non-treated during pregnancy, should receive prophylactic treatment for two years. 3. Finally there is that group which treats all infants whose cord reactions are positive.

These various opinions do not seem to be sound on the face of evidence recently presented.

We are inclined to concur with the opinion of the first two groups only in those instances where the mother has not received antiluetic treatment during pregnancy, although we know that even in these cases a certain number of infants escape infection. On the other hand, we do not believe every infant should be subjected to the inconvenience and stigma of treatment, and their parents to unnecessary expense, when we know what the mother has received adequate treatment during pregnancy. Furthermore, it seems to us that those placing reliance on the cord reaction as the criterion for treatment are pursuing a fallacious course.

It has been our experience as well as others that absolute dependability cannot be placed on such reactions. Infants whose cord reactions were positive proved to be normal, while others with negative reactions eventually proved to be syphilitic. Because of these various objections, we have been guided by the following criteria in the selection of infants for treatment: 1. Infants presenting either clinical or x-ray manifestations of syphilis. 2. Infants showing no such evidences, but who at one month of age or later show a positive Wassermann reaction.

In our experience we have found that the Wassermann reaction at one month of age is most reliable. In no instance in which it has been negative has such an infant presented any signs of syphilis over a long period of observation, despite the fact that exceptions to this rule have been reported in the literature. Then, too, by pursuing this course, we have noted no ill effects by postponing treatment one month in those cases where the Wassermann reaction either remained or became positive at this time. On the other hand, we have eliminated the treatment of nonsyphilitic infants.

From the Department of Pediatrics, Jefferson Medical College.

Active Treatment

The active treatment of congenital syphilis is carried out first by specific drug therapy, and second by nonspecific treatment.

The drugs in common usage are the arsenical, bismuth and mercurial compounds and the iodides. The arsenical compounds generally employed are as follows: 1. Acetarsone or stovarsol, a pentavalent compound which is administered by mouth. It is closely related to arsphenamine in its chemical composition. Its arsenic content is from 27.1 per cent to 27.4 per cent. It is marketed in 0.1 Gm. and 0.25 Gm. tablets. It is given perorally in the following dosage: for the first week 0.005 Gm. daily for each kilogram of body weight; for the second week 0.01 Gm.; for the third week 0.015 Gm.; and for the following six weeks 0.02 Gm. It is dissolved in water, or preferably in milk, and given half an hour before feeding. If the quantity is small it is given once daily, but as the infant requires a larger dose it is divided into two or three doses daily.

We have found this drug extremely effective in young infants. It is well tolerated. Its effectiveness and its ease of administration make it perhaps the drug of choice in the young infant. 2. Sulpharsphenamine, because of its relatively nonirritating action when given intramuscularly, is indicated in the older and well developed infant and young child who have no suitable vein for intravenous injection. It is given at weekly intervals in the proportion of 0.020 Gm. for each kilogram of body weight. It is administered in concentrated solution, using 1 c.c. of distilled water for each 0.1 Gm. of drug. 3. Neoarsphenamine, like sulpharsphenamine, is a trivalent compound containing about 20 per cent of arsenic. It is the drug of choice whenever a suitable vein is present. The dose employed is 0.015 Gm. for each kilogram of body weight, limiting a maximum single dose to 0.45 Gm. It is given in the same concentration as sulpharsphenamine. We have not noted any undesirable effects from the use of such concentration. 4. Tryparsamide is used only as an adjunct to other therapy in cases of neurosyphilis. It is marketed in fine white crystals which are very soluble in water. It is recommended that 0.05 Gm. be given for each kilogram of body weight, restricting any single dose to 0.5 Gm. in children under six years of age and to 2 Gms. in the older child. It is dissolved in water, using 5 c.c. for each 1 Gm. of drug. It is given intravenously at weekly intervals.

Bismuth:

There are, broadly speaking, two classes of bismuth preparations in use in the treatment of congenital syphilis: soluble and insoluble preparations. Since the soluble preparations are quickly absorbed and quickly eliminated, necessitating two or three injections each week, we prefer to use the insoluble ones, which are given at weekly intervals. The only exception to this rule is in those cases where an intolerance to arsenic exists, when the soluble ones are used to secure control of the infection more quickly. We have found bismuth well tolerated in rather large doses. It may be given in the dosage of 25 to 50 mgm. of metallic bismuth in infants under one year, and 50 to 100 mgms. in the older child. The best method of administration is by the intramuscular route.

Mercurial Compounds:

The mercurial compounds have been more or less relegated to the background. For reasons to be stated later, it is our belief that mercury should be used in practically every form of syphilis. It may be given (1) by mouth, (2) by inunction, (3) and by intramuscular injection.

By mouth it is best given in the form of hydrargyrum cum creta or gray powder. It is useful in infants and young children. The daily dose varies from 2/5 gr. to 1½ gr. in infants under one year of age to 3 grs. in older children. The important point to be kept in mind is that the dose must be kept below that which causes catharsis. We do not believe that adequate amounts of mercury can be given in this manner and, therefore, recommend it only as an adjunct to inunctions.

By inunction it is given in the form of unguentum hydrargyri or blue ointment, which contains 50 per cent metallic mercury. This form of administration is especially adaptable to young infants or where it is impossible to see the patient regularly. The ointment can be placed on the inner surface of an abdominal binder. The dose is about 1 to 2 grs. for each kilogram of body weight.

Intramuscular injections of mercury are preferred where possible because of the

certainty of the dose. The preparations usually employed are either the soluble or insoluble salts. For the same reasons as given under bismuth, we prefer to use the insoluble salts, which may be given at weekly intervals. The most common soluble preparations used are: (1) one per cent solutions of bichloride of mercury and (2) the red iodide of mercury in the proportion of one-half minim for each kilogram of body weight. The most suitable insoluble salt seems to be the mercuric salicylate, which is given in the dose of 4 milligrams for each kilogram of body weight.

The Iodides:

The iodides are useful in children only in late clinical manifestations. They are especially used in gummatous lesions and in syphilitic periostitis. The pain in the latter instance is often promptly relieved. The dose varies from 3 to 7 grs. three times daily, depending on the size of the child.

Nonspecific Therapy

This seems to resolve itself merely into the various forms of treatment of juvenile paresis and manifest neurosyphilis. We have had no experience in such types of treatment suggested as diathermy, the inoculation of the malarial parasite, and the injection of typhoid vaccine. According to our experience in chorea, it seems to us that the last should be preferred. First, because a febrile reaction is certain to be obtained and easily controlled, and second, because it is well borne, in contrast with the malarial treatment, which investigators state is attended with considerable danger.

Principles of Treatment

We do not believe that there is any particular virtue in any one plan of treatment, provided certain fundamental principles are observed; therefore, we desire to stress these principles rather than to offer an additional plan and add to the confusion. 1. Treat the patient and not the disease. This presumes a knowledge of the mode of action of various drugs. Briefly, it may be stated that arsenic acts chiefly by its rapid spirochetal action; that bismuth likewise possesses a similar action, but while not so rapid in action, yet it increases to a certain extent the defensive powers of the patient; while mercury acts by stimulating the protective powers of the body tissues against spirochetal invasion. We desire to emphasize this most important action of mercury. Because of this, we believe it is indicated in every form of syphilis and cannot be entirely replaced by bismuth, as is the tendency today. Then, too, if we bear in mind the pharmacology of these drugs, we shall not use an arsenical preparation in a small debilitated infant, or in cases of florid syphilis, because the too rapid destruction of the spirochetes may cause a Herxheimer reaction with severe intoxication. It will be better in this instance to increase the resistance of the patient by a course of mercury, combined with or followed by bismuth. On the other hand, in a stronger infant or older child, the infection may be gotten quickly under control by arsenic, followed by bismuth and mercury. 2. The second basic principle is adequate treatment. By this we mean continuous and intensive treatment during the first year and continued largely throughout the second year. In some cases, especially in the older child, it may be necessary to treat the patient for years. We are inclined to use large doses because it has been shown that there is less possibility of the organisms developing resistance to a drug than when smaller doses are used. However, when the insoluble heavy metals are used, it is advisable to reduce the dose toward the latter half of the course because of the cumulative action of the drugs, while in the case of mercury it has been shown that smaller doses excite a greater defensive action. 3. The third principle is the use of all drugs in rotation or combination, choosing the class of drugs or particular preparation according to the indications outlined.

We believe it advantageous to combine one of the heavy metals simultaneously with arsenic in order to insure a constant bombardment of the spirochetes and constant stimulation of the defense mechanism, because, as previously stated, the latter is quickly eliminated. For the same reason, arsenic should never terminate a course of treatment.

If these principles are pursued, then any plan of treatment should prove effective.

Bibliography

1. Coppolino, John F. Bismuth Therapy Exclusively in Congenital Syphilis. Am. J. Dis. Child. 39:288, February, 1930.

2. Coppolino, John F. Acetarsone in the Treatment of Congenital Syphilis. Am. J. Dis. Child. 48:272-280, August, 1934.

3. Coppolino, John F. Prophylaxis of Congenital Syphilis. Am. J. Obstetrics and Gynecology. 297:14, May, 1935.

2028 SOUTH 13TH STREET.

BRONCHIECTASIS

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DILATATION or deformity of the bronchial tree is probably a much more common and more frequent condition than is generally recognized to be the case. Its incidence at autopsy far exceeds the instances of clinical recognition. This may to some extent be accounted for by the fact that generally the term bronchiectasis has implied profuse expectoration and fetor, a misconception which must be discarded, particularly concerning bronchiectasis in its early stages. True, in its early stages, bronchiectasis presents certain difficulties of clinical recognition, difficulties which have to a great extent been overcome by appreciation of the associated or causative factors, and by improved methods of study, notably bronchography.

Etiology

Bronchiectasis is usually secondary in origin to disease of the upper or lower respiratory tract. It is notoriously associated with nasal accessory sinusitis, and the presence of the latter should arrest the attention of the clinician. Whether the infection in the bronchi is the result of direct extension, or the result of blood or lymphatic absorption, has not been definitely determined. Certainly the studies of Graham are suggestive. He carefully observed patients who had a bronchial fistula. With each episode of acute upper respiratory infection, the mucosa of the bronchial fistula became red and swollen, and where up to that point it had secreted very little, it would show increased secretions, at first mucoid, later mucopurulent in character. "With the subsidence of the acute infection in the sinuses, the local reaction in the fistula also subsides."

The pneumonias are frequently followed by bronchiectatic changes, particularly where there have been complications, such as the so-called unresolved pneumonia (which is rare), empyema, longstanding encapsulations, and those atelectatic pneumonias which are the result of stricture, neoplasm, and foreign body. The pneumonias of measles, and whooping cough, are also offenders in this respect.

Bronchiectasis follows repeated attacks of bronchitis, as well as bronchial asthma. It can be recognized in many of the pulmonary conditions which result in fibrosis, such as pneumonoconiosis and the indurative ulcerative tuberculosis. In such instances, the greater the degree of fibrosis the more marked will be the ectasia.

The mechanism of dilatation of a bronchus necessarily depends on the weakening of its walls. No one factor has yet been presented which can account for such a change. Increased intrabronchial pressure incident to cough cannot alone satisfactorily explain the dilatation, since beyond obstructed bronchi the pressure is lower than in the surrounding healthy pulmonary tissue. May not the air, kept from leaving such obstructed bronchi, exert a positive dilating effect at the time the air in adjacent alveoli is suddenly released following the cough? (Coryllos).

The contraction of fibrous tissue, with resulting bronchial dilatation, is more easily understood, the traction exerting its effects from the outside.

In the severer types of bronchiectasis, the acute or chronic inflammatory changes involve not only the mucosa of the bronchi, but extend through the submucosa into the muscular and elastic layers, later into the adjacent surrounding pulmonary tissue. The mucosa becomes thickened and granulations appear which eventually obstruct, partially or completely, the smaller bronchioles. The normal action of the mucosal cilia is lost, preventing the secretions from being wafted toward the trachea, with resulting stagnation. The inflammatory process involving the muscular and elastic layers causes the bronchi to lose their tone, resulting in weakening of their walls so that dilatation may now occur. Nonaeration or defective aeration induces the development of facultative or strict anaerobes, with fetid expectoration. Extension of the infection into the parenchyma sets up local areas of lobular septic bronchopneumonia, local atelectasis, or even abscess formation. These abscesses

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may be small, single or multiple, and at times quite large, creating fair-sized sacs of purulent infection, and large cavities.

In the less severe nonfetid instances of bronchiectasis, simple dilatation as a rule occurs, the inflammatory changes being less marked and extending through the submucosa, muscular and elastic layers, but less often into the parenchyma.

Pathologically and clinically, two main varieties of bronchiectasis are recognized, cylindrical and saccular. The cylindrical shows uniform dilatation and occurs usually in the larger bronchioles, without aneurysmal formations. Normal or emphysematous tissue may be found in the involved areas. In the saccular variety, the dilatation may involve the bronchial wall over small or large areas, with the development of sacs or cavities. The saccular is the type which more often becomes the focus of secondary anerobic infection, with the more serious picture of septic pneumonitis, fetid expectoration in large quantities, and abscess formation.

Symptoms

The most typical complaint in bronchiectasis, particularly in the early stages, is perhaps the cough, which, on close questioning, often gives the immediate lead to the diagnosis. Typically, there is the history of a morning cough on arising, either mild or severe and spasmodic, which is relieved by the expectoration of a small or large amount of mucopus. There is then comparative freedom from cough until bedtime, when a second spasm occurs, again relieved by the raising of a variable quantity of secretion. It would appear that secretions collect in various groups of dilated bronchi in the upright and prone positions, the change of posture causing a shift in such collected and stagnant inflammatory products. What follows really represents an effort at natural and spontaneous drainage.

Hemoptysis is a frequent occurrence, and may lead to an erroneous diagnosis of tuberculosis. The bleeding may be small, arising from the ulcerating granulation tissue, or large and brisk, from ulceration into the deeper structures, such as a branch of the pulmonary artery. Graham states that hemoptysis is more frequent than in tuberculosis.

Expectoration varies in amount. There may be no expectoration, even with severe coughing spasms, suggesting the cylindrical type. Profuse expectoration, often as much as 10 or more ounces per 24 hours, may be seen, and would suggest the saccular type. In such cases, fetor is frequently present. Of only suggestive import is the separation of the sputum into three layers, and not diagnostic.

Fever in the course of a known bronchiectasis is concomitant with the recurrent episodes of septic lobular pneumonia.

Physical Findings

These vary with the types and their severity. The most constant finding is diminished breath sounds. It is due to the complete or incomplete obstruction of the bronchi by the granulations and deformity. If there are retained secretions, persistent small and medium-sized moist râles will be found. In the milder cases, no râles may be heard. The morning spasm having dislodged secretions that have collected overnight, there may be no râles when the patient presents himself for examination. This suggests that, at times, it might be advisable to examine the chest before the patient arises. Such findings are usually elicited at one or both bases, but they may be found over an upper lobe, and will then require careful study to differentiate tuberculosis. The time-worn dictum will aid, however, namely, that a lesion at the base is not tuberculosis until proven otherwise; a lesion in the upper lobe is tuberculosis until repeated sputa have been found to be negative for tubercle bacilli.

A frequent finding is clubbing of the fingers, with or without hypertrophic osteo-arthropathy. The most satisfactory explanation for its causation lies in a comparative anoxemia, according to Campbell. Blood circulating through even a small portion of nonaerated lung is lacking in oxygen, resulting in a lowered oxygen tension generally. In dependent parts, as the fingers and toes, with slowing of the local circulation, edema occurs, causing the clubbing; relative stasis and lowered oxygen tension combining to produce the edema. This explanation seems the more plausible since Ornstein and others have shown the disappearance of clubbing following lobectomy.

The Diagnosis of Bronchiectasis

This will be made more frequently if the condition be kept in mind and if cognizance be taken of the diseases which predispose to bronchial wall damage. Persistence of

râles at a localized area should suggest bronchiectasis, especially if the sputum is found to be negative for tubercle bacilli, preferably by the concentration method. The comparatively new procedure of outlining the bronchial tree by the injection of iodized oil and visualization by x-ray has been the greatest advance made, and is of the greatest importance in arriving at a true diagnosis.

An idiopathic brain abscess should suggest the possibility of a pre-existing bronchiectasis, as it is frequently a complication metastatic in origin.

Treatment

In the early stages, postural drainage is often efficacious in preventing further extension and damage. This measure is openly debated, its opponents pointing to the tenacity of the sputum. Nevertheless it does at times help, and some have gone so far as to advise its routine use in all conditions which may secondarily involve the bronchial tree, as a prophylactic measure. The prime object is to promote drainage and prevent stagnation, thus aiding at times in the spontaneous cure of the milder cases.

Change of climate has been suggested, good results being seen, possibly through the prevention of repeated upper respiratory infections.

Care of the nasal accessory sinuses when diseased should be rigorously followed.

Pneumothorax has not been shown to be of value except in the control of massive or repeated hemoptysis. It may incidentally compress the dilated sacs, and thus prevent large accumulations of secretions. Its use generally is decried in certain quarters, however, since it may hamper rather than facilitate drainage.

For fetor, Ornstein has recommended the rectal instillation daily of 2 drams of ether in two ounces of olive oil. Under such a routine, and when combined with oxygen inhalations for five minutes every two hours, I have seen remarkable gains in weight, decrease in the amount of expectoration, and even temporary cessation or diminution of fetor.

Lipiodol is at times of therapeutic value. Its specific gravity is three times that of the sputum, and may displace the stagnating secretions in the dilated bronchioles.

Samuel Thompson has shown good results with lavage of the affected bronchi, and, in the fetid cases, instils bacteriophage following the lavage.

Bronchoscopy is of value in locating a stricture of a bronchus, or a neoplasm or foreign body. In children with marked unilateral pulmonary fibrosis, showing retraction of the mediastinum and heart into the affected side, bronchoscopy should be the first procedure, to rule out a foreign body. Its use is limited, however, by the fact that the instrument cannot visualize upper lobe bronchi, nor can it enter the smaller ramifications of the bronchial tree which are so frequently the seat of pathology.

Lobectomy has offered cure in many severe cases. Its success depends on relative freedom from adhesions, and the prime condition that the disease process be unilateral and limited to one lobe. Ballin and others have shown that following lobectomy, with good operative results, there later have developed bronchiectatic changes in the other lung. This has occurred even where originally no bronchial disease could be demonstrated. Such an occurrence would naturally militate against an ultimately good result.

30-69 36TH STREET.

UNDERGRADUATE OBSTETRIC EDUCATION

FRED L. ADAIR, Chicago (*Journal A. M. A.*, April 25, 1936), believes that in arranging the curriculum it is imperative to keep in mind that all branches of medicine are closely correlated and that knowledge of one increases the knowledge of another. Obstetrics presents new aspects relative to history taking and methods of physical examination as well as of terminology and a physiology and pathology that are essentially different from any of the other branches of medicine. It is therefore essential that sufficient time be allowed to the student in which to acquire knowledge of the more remote results of obstetrics which are apparent in gynecology as well as to acquire knowledge of the fundamentals. Much of the student's time in hours can be conserved if obstetrics and gynecology are taught by members of a combined department rather than by those of different departments, and the data will be better coordinated. Many of the disorders of the female genitalia are the result of childbearing, and the student should derive a better understanding of the sequence of events if the instructor traces their development from the delivery of the infant to a later period of the woman's life.

OCCLUSIVE PERIPHERAL VASCULAR DISEASE

Its Early Recognition

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PRIMARILY, a periodic physical examination is undertaken to ascertain the possible presence of a pathological condition whose further progress may be arrested by the application of proper therapeutic measures. This routine procedure generally comprises a thorough examination of the various systems of the body and allied regions. The examiner rarely includes the peripheral vascular system in this procedure.

Frequently, an examination of the pulses of the extremities will reveal pertinent facts regarding early circulatory changes prior to the patient's cognizance of his condition. Many individuals are unaware of any disturbance involving their peripheral circulation. They generally attribute the usual symptoms of "rheumatic" pains, numbness, and tingling or coldness of the toes to temporary transitory conditions due to the climate, over-exposure, or too strenuous exercise.

Early recognition of vascular diseases, involving the extremities, is important because the prompt application of simple therapeutic measures often circumvents the danger of a gangrenous outcome.

Thrombo-angitis should be included among the diseases in which it is highly essential for early recognition of primary circulatory disturbances. Prior to about fifteen years ago, the presence of early circulatory disturbances was not suspected in patients complaining of vague pains in their feet. Consultation with various physicians generally resulted in their being the recipients of conflicting diagnosis and advice, with little or no relief from actual pain. The existing discomfort of these unfortunates was variously attributed to flat feet, fallen arches, sprains, weak ligaments or mild arthritic changes, especially when any improvement was noted with the advent of warm weather. The possible existence of circulatory deficiency was considered only upon the development of indolent ulcers, gangrenous areas or trophic disturbances.

Eventual recognition that the majority of peripheral vascular disease cases were discovered only following the development of some serious attendant condition, such as gangrene, which further burdened an already deficient blood supply, obligated a determined effort to instigate an earlier diagnosis for the prompt application of proper treatment. This tended to reduce the incidence of allied complications that so frequently necessitated the loss of an extremity.

The exact etiology of thrombo-angiitis obliterans is unknown. Some investigators believe that it originates from an infection (1), while others hold tobacco to be the causative factor. Silbert (2), an exponent of the theory regarding its derivation from tobacco, emphatically believes that restraint from its use during the course of thromboangiitis obliterans constitutes an extremely important therapeutic measure in the treatment of this disease. Complete abstinence from the use of tobacco has been noted definitely to retard the progress of this condition in many instances, following its early recognition and prior to the manifestation of any attendant complications. Absolute abstinence from tobacco will hasten improvement of the patient, whereas its continued use will retard recovery, and resumption of its use by the patient who has made favorable progress following complete abstinence generally results in a recurrence of the condition.

Exact location of the various pulses is a prerequisite before a diagnosis can be

made of a disturbance involving the peripheral vascular system.

The following is a brief résumé of the sites where the pulses can be palpated.

In the upper extremity, the brachial, ulnar and radial arteries should be examined.

The brachial pulse can usually be felt in the middle portion of the inner side of the arm just between the triceps and biceps muscles.

The ulnar pulse can be distinguished when a firm pressure is applied over the ulnar border of the wrist on the innermost side of the pisiform bone.

The radial pulse can be located in the triangular space between the radius and the base of the metacarpal bone of the thumb.

In the lower extremities, the femoral, popliteal, posterior and anterior tibials, and the dorsalis pedis arteries are included in the examination.

The femoral pulse is located midway between the symphysis pubis and the anterior iliac crest.

In order to feel the popliteal pulse, the patient should be placed in a prone position with the extremity flexed at the knee and supported by the examiner, thus permitting the complete relaxation of the muscles. The artery is found deep in the popliteal fossa and firm pressure must be applied in order to distinguish it. Difficulty may be experienced in attempting to palpate this blood vessel in the obese (3).

To locate the posterior tibial artery, the palm of the hand should be placed on the dorsum of the foot with the fingers bent over the ankle joint so that their tips are behind the internal malleolus. The artery will then be found between the internal malleolus and the Achilles tendon. Complete relaxation of the extensor muscles of the foot and leg will facilitate palpation of the anterior tibial artery. The site of the artery is on the anterior aspect of the foot, situated approximately one to two inches above the malleolus somewhat laterally from the midline.

The dorsalis pedis artery, usually found between the first and second metatarsal bones, may be best palpated by applying the palmar surface of the index and middle fingers on the dorsum of the foot. Following the discovery of its general location, it may be readily felt with the finger tips. In approximately four per cent of the cases, the dorsalis pedis is absent, and in another eight per cent the artery will be found in a lateral position from its customary site (4).

It is very important to palpate the pulses of both extremities and compare the results.

Mere palpation of the pulses alone does not constitute the basis for a reliable diagnosis of the possible existence of a vascular disease, but must be supplemented with further inquiry and investigation.

One must bear in mind that certain individuals have closed pulses and do not complain because their collateral circulation has sufficiently developed to continue the normal function.

If the pulses be diminished, absent or unequal, a thorough inquiry should be made regarding the patient's history. During the examination, he should be questioned regarding possible pain, aches, feelings of numbness, coldness, fatigue, and superficial phlebitis, and also as to whether he smokes tobacco, and, if so, when he became addicted to the habit, the type of tobacco he uses, and the amount consumed daily. Pain is a changeable factor and may vary as to site, type, degree and nature in relation to movement and posture. The most common form is that of intermittent claudication, i.e., a cramp-like pain induced by walking or exercise which may be relieved by proper rest. This particular type of pain may be the indication of a serious disturbance which will precede the onset of other more severe complaints for months or even a period of years. Pain experienced during rest, known as rest pain, may well be the precursor of an ulcerous and gangrenous affection.

During the examination, the patient should be placed in the horizontal position and the lower extremities completely exposed. The extremities are then thoroughly scrutinized under a good light after being placed in the horizontal, elevated and dependent positions. General color, areas of paleness, cyanosis, fissures, signs of atrophy, deformity of the nails, and development of hair growth should be carefully noted in the horizontal position.

Ischemia or pallor is next looked for, while the extremities are in an elevated position. This condition is evoked by elevating the limbs to such an extent as to cause a lessening or failure of arterial influx into the blood vessels and capillaries of the skin. With healthy arteries and

adequate heart action, normal *vis a tergo* is sufficient for deliverance of the normal amount of blood to the most peripheral parts of the feet, producing a pinkish color to the toes. Such action is virtually impossible if an obstruction of the blood vessels exists. Pallor resulting from elevating a limb above the heart level generally indicates structural impairment, since blood fails to enter the blood vessels from the arterial side to compensate for drainage into the venous circulation. During the course of elevating the legs, the toes and feet become pale, and the sooner ischemia becomes manifest, the greater must be the obstruction. Ischemia may be made more pronounced if the patient is requested to flex and extend his feet at the ankle joint while in a recumbent position with feet elevated. If such a response occurs unilaterally, this test may be of particular importance (5).

Following examination of the extremities in both the horizontal and elevated positions, they are placed in the dependent position in order to verify the possible existence of rubor or erythromelia, which usually begins at the toes and extends upward to the dorsum of the foot.

At this stage, further palpation is made in order to note temperature changes and texture of the skin in addition to phenomena elicited earlier in the procedure.

Palpation for temperature findings should be performed at various levels and a comparison made of each extremity at a corresponding level. If a deficient circulation exists in an extremity, the temperature is usually lower. Palpation is a crude method for the detection of any change and variation in temperature. Utilization of the dermatherm (6) or potentiometer (7), which is an electrical skin temperature apparatus, will yield a more accurate determination. Discovery of a variance in temperature existing between two symmetrical portions of the extremities under similar environmental conditions is of significant importance. Unilateral coldness, associated with pallid skin, frequently indicates a structural disease of the blood vessels.

The extremities are then palpated in order to study the skin texture and discover whether it feels leathery and has lost its elasticity.

Having ascertained that the patient's pulses, in his extremities, are either absent, diminished or unequal, and that his skin is unhealthy in texture and lowered in temperature, the examiner may be of practical assistance to the patient by giving instructions for the proper care of his extremities and advising absolute abstinence from smoking.

Each patient should be subjected to this routine examination, which consumes only a very short period of the examining physician's time.

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In many cases, special equipment and tests may not be required for the diagnosis of peripheral vascular disease. However, in some instances, they are necessary to corroborate the diagnosis.

The following tests will assist in determining the existence of a circulatory disturbance.

(a) Oscillometry: A more thorough study of the larger and deeper arteries of the extremities may be attained by using the oscillometer, which measures the amplitude of the pulsations of the blood vessels. In conjunction with other tests, it replaces the physician's palpating fingers for examination of the peripheral arterial pulsations and yields quantitative information regarding amplitude of the pulses in organic arterial disease. The oscillometer consists of two types, viz., the recording and the non-recording. For a complete oscillometric examination, the patient must be placed in a horizontal position with his limbs completely exposed and unfettered by constricting bands, and thoroughly relaxed with his arms at his sides. Readings are taken, starting from above downward, from both extremities at the upper thigh above the knee, below it, at the mid-calf, above the ankle, and over the foot. These readings are significant only when compared with those taken from the opposite extremity at corresponding levels (8).

(b) Intracutaneous Histamine Test: This test (9) consists of the injection of 1/10 cc. of histamine acid phosphate, resulting in the production of a flare resembling a mosquito bite within 2½ to 5 minutes following its administration. The size and rate of its appearance serves as a measure for indicating the normality of the blood circulation. Absence of this flare signifies either insufficient head pressure, existing in the skin vessels, to fill completely the arterioles which have become dilated by the histamine, the occurrence of an arterial spasm which cannot be overcome by the

histamine, or degeneration of the skin sensory nerves following a peripheral nerve injury. The following facts are evolved from the skin histamine reaction: (1) The lowest level for amputation is determined in patients having frank gangrene. The histamine wheals are placed at varying levels on the extremity, avoiding bone prominences where the skin is at a tension. The lowest level at which the normal histamine reaction can be detected indicates the site for circular amputation. (2) During the course of conservative treatment, using physical and other measures, the impairment of the collateral circulation can be easily visualized. Although the histamine test is accompanied by a certain amount of pain, it has been considerably modified by Perlow (10), who has described a painless and efficient histamine skin reaction induced by the intradermal injection of a 1:2000 solution of histamine in ½ per cent of novocaine. The reaction is readily visible within five minutes following the application, but is more definite when it has reached its height after ten minutes have elapsed.

(c) The intracutaneous injection of 0.2 cc. of normal saline solution (11) also serves as an adjunct in the diagnosis. If there is a good circulation, the saline solution will be readily absorbed within about 60 minutes, but when it is poor, less time will be required. The greater the absorptive speed, the poorer is the circulation. As during the histamine test, careful avoidance of bony prominences and areas must be observed for the injection of the saline solution.

Careful clinical examination usually yields most of the required information in the study of vascular diseases of the extremities. The appearance of the limbs, when in the horizontal, elevated or dependent positions, the comparative warmth of the corresponding levels of the parts, and the palpation for arterial pulses usually suffice to indicate the presence or absence of circulatory impairment. The oscillometer and the intracutaneous histamine and saline tests also furnish important complementary checks.

Although these procedures clearly indicate an interference with the circulation, they do not reveal the cause of the condition, which may be due to a mechanical occlusion of the vessel or may originate from a vascular spasm. Additional tests to clarify these two points are essential in the study of peripheral vascular disease.

(d) Various methods have been employed to evaluate these two components. However, not all of them have proved applicable for general office procedure.

I. In 1926, Brown (12) introduced the use of foreign protein therapy by the intravenous injection of typhoid vaccine for the induction of artificial fever. The patient was placed in a room of constant temperature, averaging between 24° to 26° Centigrade, and thermocouples were attached to the various digits. The patient's temperature was then taken at intervals until the basal level had been reached. Five to twenty-five million bacteria, depending upon the size and age of the patient, were intravenously injected, and the mouth and surface temperature of the digits were taken every 30 minutes during the course of the fever phase.

The data desired from this procedure were as follows:

a. Increase in mouth temperature.
b. Increase in surface temperature of the digits.
c. Maximum vasodilatation level.

The following information was deduced from the above three facts.

1. A high degree of vasospasm was believed to be present when the vasomotor index, obtained by the rise in surface temperature divided by the rise in mouth temperature, resulted in two or more.

2. A high degree of vasoconstriction was indicated when the vasomotor range, which is the rise in surface temperature of the affected digits from the basal to the maximum level, amounted to four degrees or more.

3. A high degree of vasospasm was believed existent if there were a temperature rise to 31.5 or more, or to the maximum vasodilatation level, which is the highest temperature obtainable in the affected digits.

This method is not practical for office procedure and also has an element of danger (13). It is contra-indicated in patients who suffer from arteriosclerosis and myocarditis.

II. Scott and Morton (14) have found the posterior tibial nerve block a satisfactory method for studying vasoconstriction. These investigators have established a normal level for vasodilatation with the

posterior tibial nerve block for the first toe at 30.5. This procedure consists of placing the patient in a recumbent position on a table with feet and legs exposed to the knees in a room having a temperature of 20° Centigrade. The temperature of the toes and soles of the feet should be taken every five minutes until a constant level has been attained. Ten cc. of 2 per cent procaine is then injected directly into and immediately around the posterior tibial nerve. When complete anesthesia has been obtained, the temperature of the toes should be taken every five minutes until the maximum rise has been attained. If the temperature rises to 30.5° Centigrade or higher, vasoconstriction is believed to be present.

III. The reflex vasodilatation method of Landis & Gibbons (15), (16) can be easily performed in the doctor's office. Their method consists of exposing the patient's feet to the air in the room and determining the surface temperature of the toes. When it has reached a basal level, the forearms are immersed to the elbows in warm water having a temperature averaging between 110° and 115° Fahrenheit. This temperature is kept constant by placing a small heating coil beneath each bath. The skin and temperature readings should be taken every minute and the patient's hands should be kept immersed for half an hour. If the temperature reaches 31.5° Centigrade or higher, then a degree of vasospasm is indicated.

Figuring on the basis of this method, the circulatory disturbances were divided into three groups, viz.:

(1) Indication of an organic occlusion when there was no significant rise in temperature.

(2) Presence of an occlusion due to vasospasm if the temperature rise approximated a normal level during vasodilatation.

(3) The presence of a combined vasospasm and organic occlusion if the response showed a definite increase but which did not reach the normal vasodilatation level.

IV. Paravertebral block (17, (18), spinal anesthesia (19), general anesthesia (20), the use of medicaments such as ethyl alcolhol (21) and theobromine (22) and various peripheral vasodilators have been utilized to separate organic and spastic factors, but have not proved to be as practical as the posterior tibial nerve block and the immersion method of Landis and Gibbons.

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Additional methods employed for the confirmation of the diagnosis include:

1. Roentgenographic examination of the extremities to determine the presence of calcific deposits in the blood vessels (23), (24), (25), (26).

2. Visualization of the arteries following the injection of thorium dioxide, which is particularly significant for diagnostic purposes and the determination of the collateral circulation.

3. Biopsy of the blood vessels.

4. Determination of the blood volume and blood viscosity.

5. A study of the other blood vessels of the body with the electrocardiographic and ophthalmoscopic methods.

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This brief résumé of the principles involved in general periodic physical examination and diagnosis should emphasize the necessity for the early recognition of peripheral circulatory disorders in order to obtain more favorable therapeutic results. Particular attention should be given to the fact that this condition is frequently supplemented by some other disorder of greater or lesser degree.

Bibliography

1. Brown, G. E.: Thrombo-angiitis obliterans; Buerger's disease. Surg., Gynec. & Obst. 58: 297-311, Feb. (no. 2A), 1934.
2. Silbert, S.: Studies on thrombo-angiitis obliterans; the effectiveness of therapeutic procedure. J.A.M.A. 89: 964, Sept. 17, 1927.
3. Buerger, Leo.: The circulatory disturbances of the extremities. Phila., W. B. Saunders Co., 1924.
4. Reich, R. S.: Pulses of the foot: their value in diagnosis of peripheral circulatory disease. Ann. Surg. 99: 613, April, 1934.
5. Samuels, S. S.: The early diagnosis of thrombo-angiitis obliterans. J.A.M.A., 92:1571. May 11, 1929.
6. Manual published by the Taylor Instrument Co., Rochester, N. Y.
7. Manual published by Leeds and Northrup, Philadelphia, Pa.
8. Samuels, S. S.: Diagnosis and treatment of diseases of the peripheral arteries. Oxford Medical Publication, London, Humphrey Milford, 1936.
9. de Takats, G.: The cutaneous histamine reaction as a test for collateral circulation in the extremities. Arch. Int. Med., 48: 769, Nov., 1931.
10. Perlow, S.: A painless histamine skin test: an experimental study. Ann. Int. Med., 7: 561, Nov., 1933.
11. Cohen, M. B.: The intracutaneous salt solution test. J.A.M.A., 84: 1561, May 23, 1925.
12. Brown, G. E.: The treatment of peripheral vascular disturbances of the extremities. J.A.M.A., 87: 379, August 7, 1926.
13. Allen, A. W., and Smithwick, R. H.: Thrombosis of peripheral arteries following intravenous injection of typhoid vaccine: report of 2 cases. New England Jour. Med., 200: 217, Jan. 31, 1929.

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Clinical Notes

THE MANAGEMENT OF PERSISTENT NASAL HEMORRHAGE

HAROLD HAYS, M.D., F.A.C.S.
New York, N. Y.

THE control of nasal hemorrhage has received considerable attention during the past thirty years and every type of remedy, from cobwebs in the nose and the house key applied to the back of the neck, has been suggested. It is timely to bring this subject before the medical profession once more, in order to point out two facts: that an ordinary nosebleed is not at all serious, in fact, may be a good thing for the patient; and that certain persistent types of nasal hemorrhage, not associated with a blood abnormality, such as hemophilia or leukemia, may be so difficult to handle that, in unusual cases, the patient's life may be despaired of.

Even fairly persistent bleeding, in the majority of cases, may not be considered alarming. It is surprising how much bleeding from the nose can take place without causing any harm. Children often have repeated nosebleeds, due to an engorgement of the mucosa of the inferior turbinates, or the breaking of small, dilated veins on the septum. Such nasal bleeding should seldom be taken seriously. Again, severe, spurting nasal hemorrhages may come on suddenly in a patient with a high blood pressure. The bursting of a vessel in the nose often saves the patient from a hemiplegia due to a ruptured vessel in the brain. My procedure in such cases is to take the blood pressure, give the patient an injection of morphine to calm his nerves, and then sit down beside him and watch him bleed. It's rather a messy thing to watch, but the bleeding from the nose does exactly what bloodletting from the arm accomplished in the Middle Ages. It depletes the circulatory system until the blood pressure gets down to where it belongs. In some cases, I have opened a vein in the arm and withdrawn a few ounces of blood. Under no circumstances should the nasal chambers be packed. A certain amount of relief may be obtained by washing out the nose with a quart or so of hot saline solution, to remove the clots.

Let us eliminate the ordinary nasal hemorrhages which will respond to ordinary treatment. We shall then confine our attention to those extremely serious cases in which the hemorrhage comes on spontaneously or after a nasal operation. As a rule, the bleeding vessel or vessels are in a region which cannot be easily seen. Packing the nose anteriorly does little good; plugs placed in the nasopharynx may help temporarily but no sooner are they removed than the bleeding begins again.

What causes such hemorrhages? These patients are not bleeders, as is evidenced by the fact that most of these adults have had wounds or operations or teeth removed and there had never been a serious hemorrhage. Eliminating all other factors, such as high blood pressure, agranulocytosis, leukemia and other dyscrasias, one must conclude that some anatomical anomaly is present which either accidently exposes a large, abnormally placed vessel, or that the bony walls surrounding certain vessels, large or small, will not allow of a retraction of their walls. Finally, a pathological condition of the blood itself may exist so that clots are forced out of the lumen.

I am dwelling on these points particularly because, each year, I am called in consultation to see cases of baffling nasal hemorrhage. Usually these patients have had their nasal chambers packed; a posterior nasal plug has been tried. The patient looks exsanguinated—pale and pasty, with a bounding, rapid pulse. Shock is usually present. Regardless of the fact that the nose can be washed free of clots with a hot saline solution, it is seldom that one can find the bleeding point, even if one can ascertain from which side

the bleeding comes. All the usual remedies having been tried, what is one to do?

In citing the two cases I have in mind, seen in consultation during the past year, I may be able to present suggestions which may be of value.

Case 1. During the past winter I was called over to Jersey City by Dr. Herman Comora, to see a man of thirty-five who had had a persistent nasal hemorrhage, from the left side of his nose, for a week. There was nothing in the family history, past or present history, to account for the bleeding. He was a robust Italian who had a healthy blood picture. Before I saw him, all the usual remedies had been tried but he still continued to bleed. His hemoglobin had gone down to 45. Abnormal red blood cells were appearing. It was evident that no amount of packing would arrest the hemorrhage. In fact, it has been my experience that packing increases the nasal engorgement and thus there is a tendency toward greater hemorrhage. Snake venom might have helped in this case but what was needed, more than anything else, was a good supply of wholesome, new blood. My advice to Dr. Comora was to give a transfusion of at least 500 c.c. of blood, as soon as possible, and to give a second transfusion twenty-four hours later, if necessary. Meanwhile, I advised that the patient be given repeated doses of morphine. Fortunately the patient responded to the first transfusion and is perfectly well today. One will never know exactly what caused the hemorrhage.

Case 2. The nasal hemorrhage in this young married woman was the most persistent one I have ever seen. She had had considerable instrumentation over a period of two years, without any bad effects. About a week before, her capable physician, Dr. Simon Ruskin, had explored her right sphenoid sinus. Suddenly, a severe nasal hemorrhage took place from the right side of the nose. In a short time, she had lost a considerable amount of blood, had become pale, and had a rapid, intermittent pulse, of good quality. Dr. Ruskin placed her in the Park West Hospital, where he had her under observation for two days, during which time he tried all the time-worn remedies, including packing the nose and nasopharynx. The bleeding was so severe that the packings were forced out in a short time. At the time I saw her first, her hemoglobin was below 50. She was completely demoralized. There was no evidence of any abnormality, in the blood or elsewhere, to account for the hemorrhage. I suggested that the nasal chambers be washed out thoroughly with hot saline solution and that a transfusion be given. After the transfusion, the bleeding came on again as bad as ever. Twelve hours later, it was decided to give her another transfusion and she was given 500 c.c. of citrated blood. The hemorrhage continued so severely that the patient became almost pulseless. It became evident that we were dealing with an abnormal open vessel which certainly was not going to close by putting new and healthier blood into the patient. I stated to the three physicians present that this was a case where the circulation from the carotid artery would have to be arrested temporarily or permanently. I suggested that I be allowed to put pressure on the right carotid and, if this did not stop the hemorrhage, the carotid would have to be ligated. I therefore placed my thumb upon the artery, pressed down forcibly and held my thumb there. Almost immediately the bleeding became less and, after pressure for three-quarters of an hour, the hemorrhage ceased entirely. During the next few days, the patient was given copious fluids and nourishing foods and, at the end of a week, left the hospital perfectly well.

Summary

Both of these cases, but two of many dozens I have seen, are instructive and will give one an idea of the extreme measures one has to use to arrest a bleeding which is of unknown cause and is extremely serious. Such cases are likely to present themselves in any physician's practice, whether he be a specialist or not. Of primary importance is to dissociate the simple cases, which need little attention, from the serious cases which need a great deal of attention. Etiological factors must be given first consideration. When blood and other abnormalities are eliminated, one often is in a worse quandary than ever and must use the keenest intelligence to arrest the hemorrhage.

133 East 58th Street.

TREMENDOUS SKULL TRAUMA

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THE following description is presented to demonstrate and emphasize the point raised in a previous article, Traumatic Psychoses and Neuroses, MEDICAL TIMES, Nov. 1936, that it is not the extent of the skull injury but rather the nature of the brain trauma that is important in the sequelae following injury about the head.

This is the case report of a man showing tremendous trauma of the skull following an injury to the head with a crowbar, in 1933, resulting in a very large fracture of the skull which was followed by necrosis of the edges of the fracture and some bony proliferation, so that the original fracture in 1936 appears to consist of four large openings in the skull which have never filled in. It is interesting to note that a piece of metal broken off three years ago can still be seen in the anterior opening. Another point of interest is that in spite of the tremendous physical injury and bony defect this man never was unconscious nor has he ever developed any physical symptoms or any neurological findings on the most careful examinations in all this period.

At the present time he is in the hospital with symptoms of a general character which apparently bear no close relationship to the original injury *per se* except in the form of a psychic upset which is primarily due to the fact that he had no work for a number of years and has been on relief. He complains of generalized weakness and inabiilty to do work, although on the ward it is noted that he takes in all the amusements and activities of a pleasant nature and appears quite happy except when questioned regarding his difficulties, whereupon he becomes very emotional and in a rather stereotyped manner relates all of his difficulties with his head and describes the acute pain in it, which he states is causing him unbearable agony. However, he eats and sleeps very well and his physical health in all this period has been excellent. It is quite obvious that in spite of his complaints the source of his difficulties is a conversion mechanism by which he is compensating for his obvious inability to make a good social and economic adjustment. A study of his life also reveals that he has always been of a dependent type and had never been able to earn a living and support himself long before the injury. He obviously grasped the injury as a satisfactory method of satisfying his ego and of overcoming his feeling of incompetence when faced by the more successful members of his community. This case, therefore, has been placed in the group of Traumatic Neuroses rather than Traumatic Psychoses, and the reason for this is now quite apparent.

From the Rochester State Hospital, Rochester, N. Y.

A TROCAR FOR USE IN GALLBLADDER SURGERY

(TECHNIQUE IMPROVEMENT)

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THOSE doing surgical work would generally concede that any attempt to improve any part of surgical technique was a move in the right direction.

The long standing gallbladder trocar used to tap the pathological gallbladder

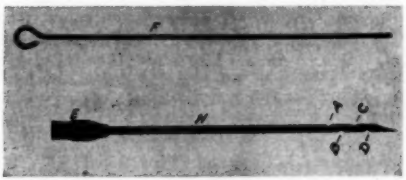
during any surgical procedure on this organ is bound to produce a certain amount of leakage and contamination of the adjacent parts, or to soil the gauze sponges which protect the adjacent soft tissues.

It was with this possible contamination factor in mind that we have devised and used in our clinic a form of trocar which will completely empty the gallbladder of any fluid contents and prevent any contamination. This trocar is very simple in its construction yet most effective in its use. The proximal end of this trocar has a standard adjustment to which may be attached a syringe of any size, thus practically and absolutely preventing any gallbladder fluid contents from leaking.

Description of the Instrument

This trocar, made from noncorrosive metal, is four (4) inches in length and of thirteen (13) gauge. The distal end is very carefully beveled with a sharp edge and a sharp point. On each side of the lumen wall are two fenestrations. These are located with relation to the beveling as shown in illustration No. 1. The first fenestration is three-eighths (⅜'s) of an inch from the beveled point while the second fenestration is located three-eighths (⅜'s) of an inch above this one and so on to the fourth fenestration (See illustrations No. 1 and 2). Thus, when the trocar is introduced, the possibility of obstructing it is overcome. In other words, there are five openings at the lower end of the trocar. Should any one or even two or more

Fig. 1



of them become occluded there still remains a withdrawal exit for the gallbladder contents. This makes the practical use of the trocar most efficient (See illustrations No. 1 and 2). The approximal end of the trocar is available for attachment to any size of syringe, as the judgment of the operator decides from his estimation of the amount of fluid contents in the gallbladder. A stilet fits snugly into the lumen of the trocar when it is not attached to the syringe (See illustration No. 2.)

Technique

The stilet (see illustration No. 2) is withdrawn from the lumen of the trocar H (see illustration No. 2). A syringe is then attached to trocar H at E. The gallbladder dome is then grasped and delivered and the trocar introduced by piercing the wall of the gallbladder at the dome, which has been previously surrounded by a gauze sponge as an extra precaution.

Fig. 2

The piston of the syringe is slowly withdrawn and at the same time the trocar is slowly but progressively further introduced into the cavity of the gallbladder until all of the fluid contents have been withdrawn into the syringe. Thus the gallbladder is entirely emptied of its fluid contents.

If cholecystectomy is the procedure of choice, the trocar is slowly withdrawn and at the same time, the dome of the gallbladder is grasped with a hemostat so as to close the trocar puncture as a further precaution against any subsequent leakage. The gallbladder can then be carefully dissected and delivered without any adjacent soiling.

If cholecystotomy is the procedure of choice, the trocar is slowly withdrawn and the trocar-opened lips grasped with picked hemostats and this opening enlarged without liability of leakage. The usual individual technique is then completed for establishment of the gallbladder.

Conclusions

If this technique, by the use of this trocar, is carefully carried out, there will be no extraneous soiling while either cholecystectomy or cholecystotomy and drainage are being carried out. This is an enhanced and perfected procedure which protects the patient to the highest degree from any possible contamination of the adjacent soft parts and areas.

From the Lucy Hastings Hospital.

Cancer

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A COMPARISON OF GERMAN AND AMERICAN OPINION CONCERNING OVARIAN CANCER

THIS account is to be a concise review of some recent German contributions regarding malignant tumors of the ovary contrasted with American views. As a recent standard of American experience and opinion we would cite the textbook study by Meigs on Tumors of the Female Pelvic Organs, 1934, which is an investigation of the material from the Massachusetts General Hospital (1). We read this book while we were looking up a group of articles in German journals. We will attempt to indicate the way in which the German views can be contrasted with the practice of a typical American hospital. Our interest will be especially concerned with such observations as are directly important in their application to clinical surgery.

●

Let us begin with GRANULOSA CELL TUMORS because the largest number of articles have to do with this interesting class of growths. These tumors, in some instances, are to be classified as benign but in the greater number of cases they are definitely malignant. They are more common than has been appreciated. On a restudy of his material Meigs found seven cases in his 227 cases of solid tumors of the ovary. In statistical articles the authors usually disregard the large numbers of simple ovarian cysts which are frequently inflammatory. Fauvet (2) found six, perhaps eight, granulosa cell tumors in his 367 ovarian tumors of many kinds seventy-six of which were malignant. Kleine (3) gives a study of twelve cases. Klaften (4) is able to add four more to his former series. Therefore, although this tumor is rare, every surgeon of considerable practice should meet with a half dozen cases. He will come upon them quite unexpectedly. The commonest presenting symptom is vaginal bleeding. He will recognize, therefore, that not all cases of post-menopausal bleeding are due to cancer of the uterus, but that a few are due to this type of tumor, which often proves to be malignant. The surgeon may have done a curettage and the report of the pathologist will indicate a nonmalignant hypertrophy and hyperplasia of the endometrium. Precisely this sort of report should put the surgeon on his guard and make him think of the possibility of this particular kind of ovarian tumor. The difficulty lies in the fact that these tumors are not palpable on pelvic examination because they are so small. At operation in post-menopausal bleeding he will of course remove not only the suspected ovary but also the opposite one, because these tumors, as well as many other ovarian tumors, are bilateral in many instances. However conservative we may be in the patient's younger years in the preservation of her ovaries, as we approach her menopause bilateral removal of the ovaries is the wisest course in the long run. In fact, at present the feeling seems to be that in the presence of any suspicion of malignancy in one ovary the removal of all the female pelvic organs is indicated. Opitz (5) describes such a case which sustains the axiom that widespread excision is the correct procedure. To be sure, some, like Strassmann (6), have failed to remove all the female pelvic organs in half their cases of ovarian tumors. However, he and many others employ irradiation both before and after operation. We think that Meigs can be

considered to agree with these various German views, including, perhaps, irradiation. Meigs is quite explicit, however, that irradiation without surgery is not justifiable unless the condition is absolutely inoperable. Both sorts of irradiation, röntgen as well as radium, are of value in the alleviation of hopeless cases (Vogt 10, Heimann 11).

Another really large group of articles in the German literature has to do with the KRUKENBERG TUMORS. It has been recognized, for some time, that these peculiar smooth bilateral tumors are really metastatic from gastric cancer. Krukenberg himself did not appreciate their metastatic nature for the structure of the primary growth is not evident. Their appearance suggests a fibrosarcoma of a myxomatous type. In a restudy of the material of the Massachusetts General Hospital, two of these tumors were found by Meigs: tumors which had previously been classified as fibromata. Meigs is able to report eight Krukenberg tumors in his material, and some four others metastatic from the colon or the rectum. Opitz quite recently was able to report on sixty cases of gastro-enterogenous ovarian cancer (14). Strassmann (6) says that 30 per cent of cancer of the ovaries is metastatic, largely from the gastro-intestinal tract. Müller (7) and many others believe in the theory that these Krukenberg tumors are really implantations of tumor cells into ruptured ovarian follicles. Thus they seem to be limited largely to the period before the menopause. In fact Frankl (8), Puppel (9) and others have reported cases of pregnancy accompanying these metastatic gastric cancers. This is the basis for the rule that in the presence of bilateral ovarian tumors one should look for cancer of the stomach or of the intestinal tract, and this should be done before the operation itself. If the condition does not become apparent until the operation a thorough exploration of the abdominal organs for neoplasm is indicated.

In so far as the German literature is concerned one forms the opinion that the great interest lies in the ARRHENOBLASTOMATA, which often are masculinizing tumors (Fauvet, 12), and certain DISGERMINOMATA which are associated often with hermaphroditic conditions (Fauvet, 12). Besides these the BRENNER TUMORS are the subject of some interest, perhaps principally because they may appear malignant microscopically until their characteristic structure is recognized. They are nearly always benign. Nor do they produce hormones, at least according to Schiller (13).

This review illustrates that one should not confine one's reading to journal articles, for such a person might get the impression that these references comprehend all that is important in the subject of malignancy of the ovary. It would be wiser to read such a book as this by Meigs to obtain a well balanced review of the whole matter. Ovarian tumors comprise somewhat over a hundred pages in this text. At first he gives a general discussion and then there follows a study of specific types.

Under the heading of treatment, some of Meigs's views may be mentioned before closing this review. In papillary cystadenomata the inability to tell a benign from a malignant growth makes bilateral removal the safest treatment. Meigs says, "The uterus should always be removed if both ovaries are removed." Even in the presence of ascites radical surgery should not be given up. Removal of as many peritoneal implantations as possible is the key to successful results from combined surgery and irradiation. Neglect in the removal of the opposite ovary often spells recurrence. "In some cases it is far better to destroy fertility than to allow the development of cancer." Bilateral growths may be spontaneous or the tumor may have extended from one ovary to the other. And at the time of operation the growth in the second ovary may be very small indeed.

References

1. J. V. Meigs. Tumors of the Female Pelvic Organs. MacMillan Co. 1935.
2. E. Fauvet. Zent. f. Gyn., December 17, 1932. 56:3088.
3. H. O. Kleine. Strahlentherapie, June 7, 1933. 47:326.
4. E. Klaften. Zent. f. Gyn., March 16, 1935. 59:614.
5. G. Opitz. Zent. f. Gyn., September 7, 1935. 59:2104.
6. P. Strassmann. Deutsch. med. Wchnschr., March 17, 1933. 59:402.
7. H. G. Müller. Monats. f. Geburts. u. Gyn., July 1935. 99:348.
8. O. Frankl. Zent. f. Gyn., April 8, 1933. 57:788.
9. E. Puppel. Zent. f. Gyn., January 7, 1933. 57:49.
10. E. Vot. Med. Klin., October 27, 1933. 29:1464.
11. F. Heimann. Med. Klin., February 9, 1934. 30:198.
12. E. Fauvet. Zent. f. Gyn., September 15, 1934. 58:2162.
13. W. Schiller. Arch. f. Gyn., May 23, 1934. 157:65.
13. G. Opitz. Zent. f. Geburts. u. Gyn., June 21, 1935. 111:54.

Economics

Department Edited by Thomas A. McGoldrick, M.D., LL.D.

COMPULSORY SICKNESS INSURANCE*

To the New York Herald Tribune:

As president of the Medical Society of the State of New York, please permit me to comment on the item appearing on the front page of your issue of November 23, under the headline: "Health Insurance Study Is Initiated by Security Board."

The article describes the European scheme of so-called "health insurance," better called "sickness tax." The writer, Albert L. Warner, presents a typical case for collectivist medicine, bureautically controlled, which the medical profession, almost as a unit, opposes for the reason that in every country where it has been tried it has resulted in a deterioration of the quality of medical care which the public receives.

* * *

Your correspondent states: "Almost all European countries have comprehensive plans of health insurance providing cash benefits in disability and invalidity and supplying medical aid. The cost of these plans is usually shared by three parties: the employer, the employee and the state."

This is a correct statement. But the public should know that in these countries the economic status of the industrial worker, before sickness insurance legislation, was so low that he could barely gain enough food for himself and his family, to say nothing of providing medical care. In England, a radio or a car is beyond the dreams of the industrial worker. Bismarck in Germany and Lloyd George in England, put forth this scheme as a sop to socialism, and its result has been to fasten a gigantic pay roll of stenographers, clerks, "economic advisers" and what not on the backs of the laboring people, in exchange for a type of medical care which has been described as "a pat on the back, a stock prescription, and out the door."

What do well informed Europeans say about compulsory sickness insurance?

* * *

Sir Frederick Treves says: "The English working class has a craving for bottles of medicine which is second to the craving for strong drink."

Many physicians are required to see forty to sixty patients a day—some average 100. This is far too many. Why do not British doctors complain? It should be remembered that health insurance has existed as a part of the government in England since 1911. British physicians who see its great defects are "cagey" in their public statements derogatory of a system on which so many physicians and bureaucrats are dependent. Yet Sir E. Farquhar Buzzard, in his presidential address before the British Medical Association, said: "Any medical service which aims at the prevention and early detection of disease, to say nothing of the preservation of health, must provide the doctor with ample time to carry out his work, and I have no hesitation in adding, the better educated the doctor the more time he will require.

* * *

"The chief flaw in a badly organized service, such as that which has evolved in this country during the last century, is lack of time, and both the general practitioner and the consultant, in order to earn a living wage, are frequently obliged to undertake far more work than they can deal with efficiently in the hours at their disposal!"

Regarding the system in Austria, I quote Dr. Jacob L. Moreno, director of research, New York Training School for Girls, Hudson, N. Y.:

"No physician is capable of properly treating the large number of patients sent him under sickness insurance. He is forced to evolve some mass production plan of operating his office to run people through his mill as fast as possible. The 'rush' system of handling patients is inevitable. When the technique of getting them in

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** See also editorial in this issue.*

and out fast is perfected, the doctor begins to lose that intangible 'something' which is vital to both himself and his patients—his morale. I do not know any doctor who remained long at this sort of practice in Austria who did not become hardened."

Regarding Germany, Dr. Paul G. Frank, a German physician at present in this country, says: "For almost thirty years I have worked as a German panel doctor under the conditions of compulsory health insurance, and for many years I was a member of the physicians' committee. During this period I witnessed a deterioration of the medical profession. It came about by the removal of the sanctions of preferment by skill and the substitution of preferment by convenience.

* * *

"What I mean is that an insurance scheme soon becomes a business—it must do so to succeed, while the practice of medicine must be a profession to succeed at its best, and the two will not mix. In Germany the physician who was most adaptable to the advancement of the plans of the insurance officials, and who most pleased the patients for reasons perhaps quite other than skill, obtained the most rapid preferment."

Some of the most high-minded and altruistic of American physicians deplore the propaganda being disseminated in behalf of this unworkable system. William J. Mayo says: "We of the medical profession are determined that we will not be subjected to political interference. We will not sacrifice the spiritual values of our profession for the small material gains held out to us by political and social experimenters who are attempting now to control the practice of medicine. We refuse to be dictated to by men who are not physicians, who do not understand the sacred obligation of physicians to their patients."

* * *

Security for the doctor means insecurity for the patient. Advocates of these measures lure the profession with the siren song of bureaucratic jobs, assured income —security—false security. We do not want to be secure. We want to remain insecure. We prefer the discipline of private practice which keeps us on our toes to an assured income under bureaucratic control where our highest ambition is more likely to be to keep ourselves solid with the politicians who have taken over the job of running our profession.

The physicians of the country would approve such a widespread plan for medical care if there were a reasonable hope, based on experience, that it would work. As a profession, our first interest is the interest of the patient. It is needless for me to say that in our daily work it is our constant effort to render our services unnecessary—we are a group of men constantly trying to work ourselves out of employment. If sickness insurance were anything better than a palliative to "kid" the people into thinking they are getting something for nothing, the medical profession would be the first to support it. If there were, in fact, any worthy evidence that the health of the people had been improved in any country adopting this scheme, we would be willing at least to try it in America.

* * *

What is the evidence on this point?

The health section of the League of Nations has compiled statistics on the general death rate of all reporting countries, covering the period from 1911 to 1934. Six countries, in 1934, had a death rate from all causes of less than ten a thousand. Think about that for a minute, and what it means! A very fine record, is it not? These countries were the Union of South Africa, Australia, Canada, New Zealand, Norway and the Netherlands. Four of these six, the Union of South Africa, Australia, Canada and New Zealand, do not have compulsory health insurance!

According to these same League of Nations statistics, our death rate in 1934 stood at eleven a thousand; right behind the leaders. You must remember that this includes the Southern states, with a Negro population not found in any European country. If you leave out these Southern states and consider only that part of our country in comparable geographic location to the European countries with compulsory health-insurance systems, we would have a lower death rate than that of any insured country!

* * *

Nearer home are other countries whose vital statistics are on file with the League of Nations. One South American country —Chile—has compulsory insurance. Its death rate in 1934 was 26.8. Compare this with the rate of 11.8 in Argentina and

—Concluded on page 33

Cultural Medicine

Some Medical Aspects
OF PRESENT WORLD PROBLEMS

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THE world is suffering from an exacerbation of some of its chronic troubles. Wars are much in evidence and rumors of wars. Economic disorders prevail excessively. The whole civilized world is in a state of unease. Investigation shows that laws of nature are being interfered with, and particularly, the law of evolution which governs the development and progress of living beings, and the law of supply and demand which governs the distribution and prices of commodities. As a result of the interference with the law of evolution has come an acceleration of the rate of population increase in most civilized countries, with a relative increase in the proportion of the lower grades of humanity—a rising tide of inferiority in an increasing population.

The principle of population increase is an unlimited factor which tends to come into conflict with the fixed factor of the earth's capacity to produce substances necessary for the support of human life. Nature has agents for keeping down the rate of increase of the population and at the same time improving its quality, prominent among which are war, famine and disease. Medicine has reduced the effectiveness of the disease check on population increase by diminishing the frequency of epidemics and lessening their destructiveness, by practically eradicating a number of important diseases from among civilized peoples, and by continually devising and improving methods of preventing and treating diseases. To appreciate how much these achievements of medicine have weakened the force of the disease check on population increase, one has only to compare the present death rate of a few common diseases—for example, smallpox, typhoid fever and the intestinal diseases of infants—with the former death rate of those diseases; or to compare the expectation of life in this country now with what it was fifty years ago—it is now nearly twice what it was then; or to compare the increase of population in most civilized countries during the last century with that increase during previous centuries.

It has been advanced as an argument against the menace of overpopulation that large sections of the earth still remain unexploited by man. But the relief thereby possible can not always be brought to the overcrowded spots. And in any case, that relief has its limits: it can only postpone the inevitable.

Socialism has been proposed as a remedy for the distresses incident to overpopulation; but socialism as an absolute dogma disregards natural laws, and particularly, the law of evolution and the law of supply and demand. But a certain amount of socialism is conceded to be desirable for securing the advantages of cooperation in the civilized social organization; provided, however, it is kept in proper subordination to the supreme natural laws.

The problem of how to deal with the menace of overpopulation in a manner favorable to the best interests of mankind requires the aid of medicine in its solution.

In pursuing this subject we meet with the necessity of reconciling the duty which medicine owes to the individual with the duty which it owes to the state and race. The duty of medicine to the individual requires it to do everything possible to preserve the life of the individual. This duty arises logically out of the fundamental law of the persistence of life and its corollary, the law of self preservation: the latter commands the individual to preserve and defend his life to the utmost; the physician works for the same end.

But how can this requirement be reconciled with the law of evolution, which commands that the fittest survive? How can medicine excuse itself for preserving

individuals who without its aid could not survive in the ordinary struggle for existence?

The difficulty here is only apparent, not real. The individual fights for his life; medicine helps him to do so—it is his legitimate ally.

In this connection must be noted the sentiment—feeling for others, sympathy, kindness, etc.—which has developed in man along with his civilization. While civilized man recognizes the supremacy of natural laws and the inevitableness of their operation, he is constrained by his sentiment to do what he can to ameliorate the asperities of their operation, and particularly, the asperities of the operation of the law of evolution.

The menace of overpopulation can be dealt with negatively by allowing nature to carry out her regular program without any attempts being made with the aid of medicine to modify specifically her procedures. Or the population can be artificially restricted. This was suggested twenty-three hundred years ago by Plato, who said in his *Republic* that the rulers of the state should "preserve the average of the population—in order, as far as possible, to prevent the state from becoming either too large or too small." Plato also, carrying this idea to its logical conclusion, advocated eugenic regulation of the population. Or a middle course can be pursued, which naturally tends toward the Platonian plan, but waits on circumstances for indications what to do.

That overpopulation and the distresses incident to it should be guarded against as far as possible by intelligent human action seems a self-evident proposition. But in the present condition of the world there are obstacles to the putting in operation of any plan of action along this line. In the first place, human intelligence and knowledge are inadequate to the formulation of a perfect plan of eugenic regulation of the population. In the second place, the practical application of any plan of regulating the population would have to be in the hands of the politicians, who, as Plato said, cannot altogether be trusted. In the third place, present popular opinion would not support any such plan.

But it would seem that something should be done under present conditions to avert the distress which must inevitably result from the clashing of the unlimited factor of population increase with the fixed factor of the earth's capacity to produce substances necessary for the support of human life; and to safeguard against the dangers incident to the rising tide of inferiority.

It should be possible by education to make the people understand the situation regarding overpopulation and its dangers, and to familiarize them with the idea that intelligent human action can facilitate evolution and at the same time minimize its distresses and increase its advantages to current humanity. The sterilization of certain kinds of criminals and of individuals with certain diseases and mental defects suggests itself. Such a plan has already been adopted in some countries. And particular communities can protect themselves to a certain extent by selective restriction of immigration.

It is likely that most people at the present time would prefer leaving the problems connected with overpopulation to nature's methods of solution, rather than to methods of human invention, politically applied. Nature can be relied on to fulfill the "unending purpose running through the ages." If human activities carry too far out of the way ordained by nature, nature in due time will push back into the evolutionary road, and perhaps roughly, the misguided human mass.

Illustrations of the fact that overpopulation is a factor in producing the present world troubles are now presented particularly by Japan, Italy and Germany.

It may well happen, as the world gets smaller in consequence of improved facilities for transportation and communication, and as the population gets denser and the general average of the population gets lower in quality, that the nations and peoples of the earth will so crowd each other that a last great world war will become inevitable; after which, as the logical solution of the situation, a scientific, or rather, philosophical form of government might be expected to arise, which would try to harmonize the population problem, evolution, medicine and the principles of humanity along lines which follow generally those laid down by Plato. Plato said, farseeingly, that the rulers of the state should be philosophers.

In the meanwhile, we can sit tight and hope for the best; holding fast to nature, and not expecting too much help from the politicians.

OLD TRAILS

VI

NINETEENTH century surgery shared with medicine in the advantages accruing from the integration of general hospitals and laboratories with the schools. Around the basic anatomical laboratory (the dissecting room) were clustered also laboratories of physiology, chemistry, therapeutics, pathology, clinical medicine, microscopy, hygiene, bacteriology, embryology, and *a laboratory of surgery*. In the highly endowed schools so great was the evolution along the lines indicated that the students' fees paid but little of the operating expenses.

After 1832, in England, a great impetus was given surgery by the Anatomy Act, which made available sufficient material to teach properly both anatomy and the performance of operations. Before 1832 cadavers had to be stolen. There was an organized bootlegging traffic in the bodies of the dead. The doctor was in the anommalous position of having to know his anatomy and to apply this knowledge skilfully, while at the same time the means of acquiring such knowledge and skill were forbidden to him.

By the end of the century it was possible in most of the American States to obtain sufficient anatomical material, because of the enactment of liberal laws. We say in "most of the American States." It was not true of all. Backward communities were, of course, the victims of their own ignorance.

The growth of medical libraries and medical journals, the advance in pathology, and the development of embryology, all aided the work of the surgeon; the libraries, by providing the surgeon as well as the physician with a record of principles, technic and accomplishment; the medical journals, by providing a record of contemporary labors and progress, as well as direct intellectual stimulus; the advance in surgical pathology, by elucidating the processes of disease, upon which basis correction of defects could be rationally worked out; and the development of embryology, through its accounting for deviations and particularly through the light it threw upon the organization of tumors and the anatomical and physiological relations existing between man and the lower animals. The last point bore heavily on the evolutionary doctrine and the benefits that flowed from animal experimentation. Since man's physiology and diseases were essentially the same as in the lower animals, and since they could best be studied in the latter, animal experimentation, and particularly bacteriological research, found complete scientific justification. Moreover, the animals themselves benefited through the evolution of veterinary science and practice.

But it was the advent of ether anesthesia that gave nineteenth century surgery what it needed most. Before 1846, when Dr. John Collins Warren did his first major operation under anesthesia administered by Morton, the Massachusetts General Hospital witnessed an average of thirty-seven operations per annum; in the closing year of the century it was over thirty-seven hundred. It developed that an individual surgeon might himself do thirty-seven major operations in as many days. Hospitals that had sponsored one major operation in ten days became responsible for twenty in a day.

Then followed the introduction by Sir James Y. Simpson, in 1847, of chloroform, and by Corning, of New York, in 1885, of spinal anesthesia by means of cocain.

Lister, inspired by Pasteur, gave antiseptic surgery to the century, beginning about 1861 to teach his principles publicly and first recording his observations in 1867. Then were scotched the dragons of erysipelas, tetanus, gangrene, and septic infections in general. Here were several Siegfrieds in one.

The mortality of compound fractures was reduced after Lister's pioneer work from sixty per cent to three per cent, with sepsis as a factor practically eliminated. Major amputations dropped in mortality from sixty-three per cent to ten per cent.

From 1886, when von Bergmann of Berlin introduced steam sterilization of dressings, may be dated the advent of the era of aseptic surgery. Halsted, then of New York, contributed to its furtherance by introducing, in 1890, the rubber gloves

now universally employed by surgeons.

The complete revolution of modern surgery was thus effected by anesthesia and antisepsis.

Through the abolishment of pain and the lessening of infection general operative mortality was reduced in the last thirty years of the nineteenth century from thirty-three to five per cent (in certain groups to three per cent).

We must give some of the credit for this to the introduction of many instruments of precision, the establishment of many well-equipped and well-managed hospitals, the development of trained nursing, and, of course, to a great enhancement of operative skill, widely diffused.

Then in 1893 came Röntgen's discovery of the x-rays, so that by the end of the century bullets within the skull had been detected in nearly a score of instances, Sweet was locating foreign bodies within the eyeball, stones were being descried in the kidneys, and bone lesions such as osteomyelitis were being revealed.

Let us consider the century's advances in a few special operations.

In the case of tumor extirpation, the introduction of antisepsis and asepsis and improved methods of preparing and using catgut and silk changed completely the situation which existed when Sir Astley Cooper hesitated to remove a wen from King George IV.

Kocher, of Berne, in 1895, reported a mortality of one per cent out of 870 noncancerous goiter operations. In 1876 the operative mortality in goiter operations had ranged from two out of seven (Green) to one out of two (Maury). By 1898 Kocher had reduced his mortality to 0.1 per cent (six hundred cases).

The end of the century saw open operations upon fractures and rachitic deformities and the suturing of nerves, with restored usefulness of members, placed upon a relatively safe basis.

The surgery of fractures and penetrating gunshot wounds of the skull, formerly hopeless, became during the latter part of the nineteenth century a remarkable illustration of progress.

In 1884 Bennett of London located a brain tumor and Godlee successfully removed it. By 1898 von Bergmann, of Berlin, collected the statistics and reported two hundred and seventy-three operations for brain tumors, with 61.9 per cent of recoveries and 38.1 of failures.

Even better success followed upon brain abscess operations in hundreds of cases of aural origin, while moderate success attended the surgical treatment of traumatic epilepsy.

Resection of ribs for empyema and operations upon pulmonary abscess, gunshot wounds and tuberculous cavities were successfully developed, while wounds of the heart itself, in a few instances, were safely sutured. George Ryerson Fowler did the first thoracoplasty in 1898.

The abdomen and pelvis became "playgrounds of the surgeon." Willard Parker, of New York, in 1867, and Fitz, of Boston, in 1888, awoke the profession to the significance and proper management of suppurative appendicitis, and the mortality fell from twenty-five per cent to two per cent.

Tinker, of Philadelphia, in 1885, reported a series of two hundred and thirty-two cases of perforating peptic ulcer with one hundred and twenty-three recoveries.

In cancer of the stomach Czerny performed gastro-enterostomy with a mortality of twelve per cent and Carle with a mortality of seven per cent.

Successful operations were performed upon the esophagus when occluded by caustic lye, upon "hour-glass" and dilated stomachs, upon the gallbladder, and upon abscessed and neoplastic livers. Out of seventy-four operations upon tumors of the liver from 1888 to 1898 sixty-three recovered.

Coley, near the end of the century, reported six hundred and thirty-nine operations for hernia with one failure.

The mortality of intestinal obstruction was reduced pretty nearly to twenty per cent by nineteenth century surgeons; what it must formerly have been under wholly medical management may be dismally conjectured.

Palliative and radical operations for intestinal cancer were practised on a considerable scale in circumstances which were once upon a time unalterable. One-third of the bowel (eight feet) was successfully removed in such a case by Shepherd of Montreal, with recovery of health.

Where gunshot and stab wounds involving the intestine were formerly almost surely fatal, the ninteenth-century surgeon repaired even multiple perforations and

wounds with impunity and success.

The last thirty years of the nineteenth century saw the surgery of the kidney placed upon a secure foundation, so abscess, stone, and loose "moorings" came under the surgeon's corrective care. Total removal of one kidney, when hopelessly diseased, became commonplace.

Pelvic surgery, in the middle third of the century, had a mortality of about thirty-three per cent. At the end of the century such operations were attended by a mortality of about three per cent.

So great did the progress in surgery seem to the surgeon himself that Erichsen of London, in an address made about 1880, declared that "surgery had reached its limits"—a curious example of how difficult it is in the midst of apparent wonders to evaluate them properly.

The final judgment upon the period, both as regards its medicine and its surgery, is, it seems to the writer, best expressed by Hillier: "More material progress was made in the nineteenth century than during the whole of the preceding ages since the earliest historic times." Moreover, the advancement in medical science, in contrast to earlier epochs, represented *organized* effort.

Twentieth Century

The most striking development of anatomy consists in a return to the inseparability of structure and function foreshadowed by Leonardo da Vinci. It is no longer possible to discriminate absolutely between function and structure, between normal and pathological. The result has been the conception of new systems of organs, in some of which there is no structural continuity. One of the first to suggest itself is the endocrine system. While its roots extend into the past century it is virtually a product of the present. Next may be mentioned the reticulo-endothelial system, the elements of which are recognized in part by peculiar staining properties and the function of which appears to be the defense against infection. As in the endocrine system structure seems to recede greatly in importance in favor of function. The structural elements of this system are to be found in the blood, endothelia, lymphnodes, spleen, liver, etc. Our conception of this system originated with Aschoff and his associates, whose pioneer report was published in 1913. Among earlier efforts which made it possible may be mentioned Goldman's discovery of vital staining (1909).

A third system developed during the century is the autonomous or sympathetic-parasympathetic. Although its beginnings go back far into the XIXth century our conception has only matured since the publication of Gaskell's (posthumous) monograph in 1916, followed by Langley's work in 1920. Derived from this conception are the phenomena of vagotonia and sympathicotonia as first described by Eppinger and Hess in 1910. In this connection may also be mentioned the work of Alvarez, beginning in 1914, on the autonomy of the peristalsis of the gastro-enteric tract, which is largely independent of nervous influence.

The study of a special portion of the heart muscle distinct from the myocardium in general and independent of nervous influence, which is distinct moreover for each auricle and ventricle, seems to have culminated in recent work by Vaquez and his associates; this apparatus, which is responsible for the heartbeat, has been termed the *"cardio-necteurs"* or heart connectors and is described in great detail in a monograph by Geraudel (1928). Many have worked in this field, especially Lewis (1910-13).

What has been styled by Cushing the "third circulation" refers to the circulation of the cerebrospinal fluid from its origin in the choroid plexus to its absorption in the venous sinuses, the intervening paths having been accurately plotted. This research was inaugurated by Cushing, Dandy and their associates in brain study about 1913.

The extrapyramidal conduction system of the cerebrospinal axis had its beginning in 1910 and was advanced by the work of Wilson in isolating the disease known by his name — lenticular degeneration—in 1913. Numerous other investigators have contributed to our knowledge of the physiological anatomy of this system.

Still another of these systems which have to do with the central nervous system is that of Head, involving both the cutaneous and deep sensibility, which also constitutes a phase of segmental anatomy indicated by the term "Head's zones". His studies in this field began early in the century.

Space does not suffice to sum up the numerous studies of the cerebellum, basal structures, special cranial nerve origins, etc., in which structure and function, path-

ology, etc., are jointly considered. The neuronal system of the central nervous system is of course a product of the XIXth century (Waldeyer, 1891).

Of the studies more essentially physiological may be mentioned the newer reflexes—the proprioceptive of Sherrington (1919), the conditional of Pawlow and associates, first described in 1911, the postural reflexes of the monograph of Magnus (1916), and the "mass reflex" of Head associated with shell shock (1920). So great is the importance of the discovery of the conditional reflexes that Watson made it the nucleus of his theories of human behaviorism. Present-day literature is silent as to the spinovisceral reflexes, once an active subject.

A subject of great importance for diet and disease is the acid-base equilibrium and the practicability of dividing all food substances by the composition of their ash into acid-formers and alkali-formers. Much work in this field has been done on the Pacific slope.

A few years ago it seemed that our textbooks on human physiology enjoyed the dubious distinction of being founded largely on experiment on the lower animals. In the near future, thanks to the developments of physiological anatomy, it may happen that these volumes will give us increasingly a physiology which will be far more taken up with the human subject at the expense of comparative physiology.

The transition from study of function to bio-chemistry is an easy one but the latter comprises many special aspects of study, much of it restricted to the chemical laboratory. Here may be discussed the endocrine system with special reference to the study of the hormones, including their pharmacodynamic activities. A common histological substratum for the endocrine organs is hardly possible and one no longer encounters such terms as "chromaffin cells" and "chromaffin system", once used for a group of these organs and based on certain staining properties. For all we know, something like an incretion may be formed by all cells.

Owing to the vastness of this subject we can only touch on some of its more

—Continued on page 52

BEDSIDE TEACHING: CONSIDERATION OF THE PATIENT'S EMOTIONAL RESPONSE TO CASE DISCUSSION

According to EUGEN KAHN and GROVER F. POWERS, New Haven, Conn. (*Journal A. M. A.*, Aug. 29, 1936), the use of the hospital ward and dispensary as the laboratory for the teaching of clinical medicine is a procedure with ancient and approved lineage—a descendant of the master-apprentice relationship which probably antedates formal academic disciplines. In the United States, teaching in the medical schools was for many years largely by lectures and recitations. To Abraham Jacobi (1830-1919), nestor of American pediatrics, great credit is due for early attempts to break away from this method and establish clinical teaching in its laboratory—the bedside. However, it was with the launching of the Johns Hopkins Medical School in 1893 and the impetus given to educational procedures by the example and success of William Osler that clinical clerkship and bedside conferences were established as the sine qua non of clinical instruction. There can be no question of the essential value to the clinical student of teaching at the bedside. There the teacher-physician has the opportunity to observe his patient and convey his observations immediately to his student or apprentice; there the teacher can make his student or apprentice familiar with his methods of examination and the student is able to examine the patient under the direction and control of his teacher. It is quite understandable that this technic would develop differently in the hands of different teachers. Even if the teaching physician understands perfectly his primary responsibility of helping his patient, as a teacher he also has another task; namely, to use his patient as "teaching material" for his students. These responsibilities are not wholly antagonistic, for undoubtedly the student by his examinations and laboratory investigations not only furnishes valuable concrete contributions to the "work-up" of the case but by his questions and comments stimulates his teacher to a more critical and searching appraisal of clinical data. Thus, the presence of a student "on the case" is often an asset. However, this knowledge of disease which the student assists in acquiring and assembling is not always handled in such a way as to bring optimal benefit to the subject.

Miscellany

Musings

● Comes now a lady to court with a damage suit against some laboratory mice. It seems that their reaction to the lady's urine was such that the lady was operated on as an emergency. Come other doctors who deposeth and sayeth that the operation was not at all necessary. The lady is suing for only $7,000.

—Yeah, there's the mousetrap and the path in the woods to your door, beaten by the world now for $7,000 or any multiple thereof. It's a funny world. I use funny in the petechial sense!

● Physician Heal Thyself.—This *is* a funny world, I often laugh and tell the children. Now take the medical cults and quacks. The world is so inconsistent—well, not so much the world as the people, don't you think? . . . I have just been reading a magazine account of one A. S. Colborne and his Anti-Profanity League. And Mr. Colborne is an honorable gentleman. It seems he has been combating swearing for thirty-five years. Though he is still addicted to his nicotine habit by way of the "good old black pipe", he says. (Sorta fouls up the mouth, too, don't you think? and does harm in the anatomical firmament and the heart, if any. Let's not go into that.) But recently, too, the Anti-Profanity League and Mr. Colborne went to see the profanest play in New York City, running now in its third year! . . . What is that consistency-jewel thing? Skip it. It's a funny thing though, his swear word when he gets furious is, "Oh, The Dickens!" He probably means, "Oh, Hell!" And if you ask me, by Crackey! I'll bet, when he has indigestion and "overflow of the bile" (his girth looks liverish), gee whiz, I'll bet he takes patent medicine!

● Sanguinary.—In leukemia the blood has too many white cells. Why? Nobody knows. In leukopenia there is a deficiency in the number of the leukocytes. In polycythemia red blood cells are too many. In pernicious anemia the blood has too few red cells (No balanced budget). Owing to a lack of a mysterious stomach secretion which liberates red cells from the bone marrow, liver from the butcher shop is prescribed, and this when eaten increases this mysterious substance in the human stomach. When this was discovered a few years ago the butcher hiked the price of liver over the counter to 60 and 80 cents a pound, in cooperation with the Packer & Opportunity to help the poor anemic. I said poor. Life is a sanguinary struggle. And as soon as they discover that for leukemia chitlings and chinebones are a cure, kinda, they will jump to white prices . . . I don't feel too good.

● How Time Flies.—The F. F. V.'s wife had just paid the last installment to the doctor for the baby.

Doctor—"Thank you so much, Mrs. Slocum. How is the baby getting on now?"

Lady—"Oh, he's just fine! Haven't you heard? He has a new car now and he's very proud—drives everywhere. He's quite a violinist! And takes voice from Sig. Cashon D'Barrielhed.

● A certain columnist who is very fond of dogs broadcasts that while window shopping he came upon a window display of electric shavers. His wife nudged him, he says, suggesting, "Why not? you have always wanted a little shaver in your home."

—Well, yes and no; while it may seem archaic to say so, still, at your age, if the chromosomes have grown a beard you'd as well adopt the little shaver.

● Great Day!—Listen, California, a bill to check the glaring-practice-of-medicine-evil of the more or less fraudulent, widely advertised nostrum, if any, and surgical appliance is reported as having had its first reading in the House of Commons, London. There is something back of this bill: The British Medical Association, The Society of Health Officers, The Pharmaceutical Society, Newspaper and Advertising Associations and bodies representing the drug trade and the manufacturers of surgical instruments. Specifically, the bill makes it illegal to hold out as effective any medicines or appliance for the cure or prevention of Bright's disease, cancer, consumption, diabetes, epilepsy, fits, locomotor ataxia, etc., etc.

—So long! California: London, here I come!

● Bladder Wrack.—"Lawsee, I just found out what went with them seven seeds I have been keepin' so keerful. Pa's been takin' 'em with slippery elm water, a-thinkin' they was pills; they plum cured his misery."

Reckon they was sweet peas?

● The passing of the Country Doctor is said to be the grand example of decadence in Art.

—You mean certain decadence in Art, in a manner of speaking, probably meaning jazz, or crooning or cubism, etc. Have you noticed—they are very good this year!—yes indeede! Some go in for modernistic cubistic artistic art, chiropractically speaking. I'll take vanilla.

Harry Nelson Jennett, M.D.
Kansas City, Mo.

●

ABOUT NOTHING

Siegfried Block, A.M., M.D., F.A.C.P.
Brooklyn, N. Y.

THE words libido, sexual desire, love and passion have been so loosely thrown around and mixed up with the emotions in general that a very short résumé attempting to differentiate and separate each one will probably be of some value.

Since the Freudian and allied schools of psychotherapy have come to be so important, the misapplications of these terms have become so rampant that not only patients but many physicians are not quite clear about them. There are those who teach that the sum total of all emotions is *love* including libido. With such a premise any other emotion is either a modification, a perversion or an absence of this total. Therefore, all types of emotions are a part of the feeling of love. In this teaching, libido is a desire for a physical expression of the mental concept of emotion. Here you can have an inhibition of the emotion of the mental concept, or the physical gratification, or both, or any combination of these three. Thus one may conceive that from the extremists' point of view, libido is supposed to be the acme of all emotions.

To the most radical of the opposing thought, where all emotions are the results of chemical or physical forces, each emotion has a different material origin and therefore one emotion has no connection with another.

Dictionaries, technical, and otherwise, define these terms in essence as follows:

Libido—Sexual desire.
Love—Extreme affection, without cause or reason.
Sexual Desire—Physical attraction for mating.
Passion—Intense emotion.

The expressions of these vary in individuals. They may also be combined, perverted or directed to persons of the same or opposite sex. If we omit sexual desire from our thoughts, then inanimate objects may be included in the thesis.

Because we have not yet discovered everything in medicine, psychology or religion, metaphysicians and other theoretical and hypothetical astral gazers or fantastic philosophers juggle facts *a priori* and otherwise. There is such a large group of our public seeking happiness and contentment and who cannot find them, that they become inveigled in a mysterious, unreal, fantastic philosophy of words. Too often the dispenser of the cure suffers from the same thing he is trying to cure.

Most of us are ambitious. We desire what we have not now and then want more when we get it. When these desires are translated into material facts, everything becomes very simple, but, as soon as the wisher does not know what he wants and the desire becomes an inanimate theory, the trouble begins. The point is, NO ONE CAN HAND OUT NOTHING.

Economics

COMPULSORY SICKNESS INSURANCE

—Concluded from page 25

10 in Uruguay, neither of which countries has an insurance system!

Are the American people to be misled by social theorists into saddling themselves with a system that works like this? I am sure they will not if they are informed of such facts as are submitted here.

FLOYD S. WINSLOW, M.D.,
President Medical Society of the State of New York.
Rochester, N. Y., Nov. 23, 1936.

NEITHER AN ASSET

A workingman in poor health is no more desirable than a workingman on relief.

—Exchange.

Contemporary Progress

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Medicine

Cholecystography

● E. L. JENKINSON *(Journal of the American Medical Association, 107:755-757, Sept. 5, 1936)* reports the cholecystographic examination of 95 patients, all of whom had symptoms "thought to be due to gallbladder disease." The dye was given by mouth in these cases, and all but 3 of the patients were able to retain the dye for a sufficient length of time; the patients were kept under control and not allowed to take fatty foods after the dye was given until satisfactory films had been obtained. Of the 95 patients examined, 70, or 73 per cent, showed a normal visualization of the gallbladder. Eighteen of these patients were re-examined and showed "a normal cholecystographic response" on the second examination. In 2 cases in which stones were present in the gallbladder, the cholecystographic findings indicated normal functioning of the gallbladder. Twenty of the patients who showed unsatisfactory filling of the gallbladder were placed under medical treatment, including a diet rich in fats (because fats stimulate the emptying power of the gallbladder), dehydrochloric acid, in a dosage of 3¾ grains (0.25 gm.) three times a day, and in most cases antispasmodics. Of these 20 patients, 8 showed a normal response on a second cholecystographic examination after treatment. The author is convinced that one negative cholecystographic response in a patient with gallbladder symptoms is not an indication for immediate operation. More than one cholecystographic examination should show abnormal findings before operation is considered to be indicated. Preferably, the second cholecystographic examination should be made after the patient has followed the "gallbladder regimen" with a high fat diet for a month. While a gallbladder containing stones may sometimes show a normal function, this is not the rule, and the presence of gallstones "is probably the most important indication at this time for surgical intervention."

COMMENT

Sound logic. It often requires re-examination to form conclusions in many different types of x-ray diagnosis.

M. W. T.

Sodium Chloride Therapy

● A. S. JOHNSON *(New England Journal of Medicine, 215:438-441, Sept. 3, 1936)* considers that the importance of sodium chloride to the body has been "somewhat overlooked in our present-day interest in the more complex molecules of the hormones and vitamins." During the past year the author has studied a group of 17 patients in the twenties and thirties whose chief complaint was weakness and easy fatigability with disinclination for physical activity and especially for prolonged exertion; more than half complained of increased nervousness and irritability; some complained of precordial pain and palpitation. Careful examination showed no organic disease, no signs of Addison's disease, and normal basal metabolism. All of these patients showed a low blood chloride level, although there was no evident cause for this, nor "an obviously deficient chloride intake." How-

ever, an increase of 2 to 6 grams in the daily sodium chloride intake relieved the symptoms in four to five days. If the salt intake was reduced symptoms reappeared. But if the salt intake was maintained, there was no recurrence of the fatigue, nervousness and other symptoms. While sodium chloride therapy is "purely empirical in the fatigue syndrome described," a trial of it is indicated in cases of fatigue with hypochloremia and "signs of neurocirculatory instability" in which careful study of the patient shows no "recognized constitutional disorder" that would account for the symptoms.

COMMENT

Extremely important. Sodium chloride therapy is now given more consideration than ever before. No doubt a quantitative estimation of blood sodium chloride gives the safest indication for therapy. In some cases of Addison's disease, sodium chloride by mouth gives as much relief as cortin. In others a low salt intake is followed by paralysis or coma consistent with uremia. The urine may show blood, albumin and many casts, but after intravenous salt solution there is rapid improvement. Pottenger showed the relation between sodium chloride therapy and asthma. Many of these asthmatic improved on salt. In all cases of fatigue the sodium chloride in the blood should be estimated. Moreover, the procedure should be repeated at intervals.

M. W. T.

Bile Salt Therapy in Liver and Gallbladder Disease

● B. D. ROSENAK and H. G. KOHLSTAEDT *(American Journal of Digestive Diseases and Nutrition, 3:577-580, October, 1936)* report the treatment of a series of cases of liver and gallbladder disease with a bile salt containing a high percentage of desoxycholic (dehydrochloric) acid. The patients were placed on a diet with definite fat restriction, moderate carbohydrate and high protein content. Many of the patients did not follow the diet strictly, and a number of apparent failures or recurrences could be ascribed to the "dietary indiscretion." The bile salt was given in 5 grain capsules, before or during meals; at least one capsule three times a day was given, but the dose increased until regular bowel movements were obtained (once or twice daily); then the dose was gradually reduced. Of the 63 cases treated by this method, 22 had gallstones; pain was not satisfactorily relieved in these cases as a rule, but constipation and the digestive symptoms were relieved in many instances. The authors recommend surgery in all cases of definitely proved cholelithiasis if the patient is a "suitable" surgical risk. In 16 cases of cholecystitis, without proof of stones, the results of the treatment were better; pain was relieved in a larger proportion of these cases, and all showed marked improvement of digestive symptoms. These results, the authors note, "compare satisfactorily with those obtained in this type of patient with surgical treatment." In 25 patients, there were symptoms indicating gallbladder dysfunction, but positive evidence of actual disease of the gallbladder was often lacking; in these cases there is apparently some hepatic insufficiency, even though not demonstrable by any of the known liver function tests. This group of patients showed the most satisfactory response to the bile salt treatment. If the bile salt treatment was temporarily discontinued in these patients symptoms returned; dietary control alone, or cathartics, did not give equally good results.

COMMENT

It must be remembered that gallstones may be an end result of years of disturbed metabolism. To remove the stones does not correct the metabolic disturbance. Bile salt therapy is often followed with good results. In many instances sodium succinate, ten grains three times a day, seems to do as well.

M. W. T.

Treatment of Anemia with Ascorbutic Acid Iron

● L. HEILMEYER, of the University of Jena *(Deutsches Archiv für klinische Medizin, 179:216-231, Sept. 4, 1936)*, reports the use of a salt of ascorbutic acid and iron in the treatment of anemias that respond to iron therapy; these anemias are characterized by small red cells with low color index. In some of these cases gastric disturbances interfere with the therapeutic action of the ordinary iron preparations given by mouth. In seeking an iron preparation suitable for injection, the author became convinced that iron

should be combined with a physiological substance that would stabilize the iron, reduce its irritating effect on the tissues, and also have a favorable effect on blood formation. Vitamin C, ascorbutic acid, seemed best to fulfill these requirements, and was accordingly chosen to form a complex salt with iron. This could be given by intravenous injection in a solution that contained 10 mg. iron per 100 cc., without causing any untoward symptoms, even though daily injections were given for a considerable period. It was found that a daily dosage of 10 mg. iron in this form was sufficient to cause an increase in red cells and hemoglobin, with an average increase of 1.3 hemoglobin per cent daily. As a rule the red cells increased more rapidly in proportion to the hemoglobin. Even the most severe cases of anemia of the type described responded to this treatment. In some cases the acorbutic acid iron was given by mouth; a dosage of 300 to 600 mg. iron daily in this form was effective in these cases. The intravenous injections should be used in such cases as do not respond readily to administration by mouth; in some instances the two forms of therapy may be combined to advantage.

COMMENT

Heath has shown that injection of iron is unnecessary. Ferrous sulphate by mouth is all that is required in most cases. Not only is this much more effective but it is much more economical.

M. W. T.

A Comparison of Myxedema and Pernicious Anemia

● J. A. GREENE *(Annals of Internal Medicine, 10:622-627, November, 1936)* presents a comparison of the clinical features of the two diseases—myxedema and pernicious anemia—on the basis of 100 unselected cases of pernicious anemia and 33 cases of myxedema; and reports 2 cases of myxedema in which it was difficult to exclude pernicious anemia and another case of pernicious anemia and myxedema. The author notes that the symptomatology of the two diseases may be very similar; for example paresthesia, which is considered one of the cardinal symptoms of pernicious anemia, was present in one-third of the cases of myxedema. The general appearance of the patients may be similar. The anemia of myxedema usually has a color index below 1.0, but in the 33 cases studied, there were 12 in which there was anemia with a color index above 1.0. In the 2 cases of myxedema reported, in which it was difficult to exclude pernicious anemia, both showed symptoms of subacute combined sclerosis; in these cases there was no response to liver therapy, but thyroid therapy relieved many of the symptoms, even some of the neurological symptoms in one case. In the third case, the co-existence of the two diseases was demonstrated, especially by the results of treatment, as both thyroid therapy and liver therapy were necessary to maintain maximum improvement.

COMMENT

Pernicious anemia and myxedema may be found together. However, it must be remembered that thyroid extract alone will cause a certain amount of improvement in many cases of Addison's anemia. Blood cholesterol studies will help in these cases. Our routine is to use thyroid extract in all cases of increased blood cholesterol; to give a maintenance dose of thyroid to keep the blood cholesterol at normal levels.

M. W. T.

Gastric Achlorhydria in Chronic and Subchronic Proliferative Arthritis

● OTTO MOLTKE and A. S. OHLSEN of the Bispebjerg Hospital of Copenhagen, Denmark *(Lancet 2:1034-1037, Oct. 31, 1936)*, report a study of the gastric secretion in 69 patients with chronic and subchronic arthritis, using the Ewald test-meal and the histamine fractional test-meal. In the patients studied all showed proliferative arthritis, in which the joint changes are localized primarily in the synovial membranes and joint cartilages, and are of a proliferative nature with a tendency to ankylosis. Of this group, 30 were classed as "true rheumatoid arthritis," and the remainder represented other types of proliferative arthritis. In the series of 69 patients as a whole, there was but a slight increase in the percentage of achlorhydria as compared with normal individuals in the same age groups. But in the cases of true rheumatoid arthritis, a relatively large number—36 per cent—showed a "histamine-refractory" achlorhydria; this high incidence of achlor-

hydria could not be explained on the basis of sex, age, or the duration of the disease. It seems probable that achlorhydria may be a predisposing factor in true rheumatoid arthritis, the ultimate causation of which "is unfortunately as yet unknown to us."

COMMENT

Pernicious anemia is often accompanied by joint symptoms. There are many patients who show a deficiency of the "extrinsic factor" and liver extract should always be used when there is evidence of this deficiency, as indicated by a red tongue, achlorhydria, macrocytosis and a high color index. Probably achlorhydria does condition patients for many diseases.

M. W. T.

Surgery

The Prevention of Peritoneal Adhesions by Papain

●A. OCHSNER and A. STORCK *(Annals of Surgery, 104:736-747, October, 1936)* note that while fibrinous peritoneal adhesions are in most cases protective, the formation and persistence of fibrous adhesions "are often distinct menaces to the comfort, life and health of a patient."

The formation of fibrous peritoneal adhesions following operation is due to trauma to the serosa; such trauma can be avoided to some extent by a careful and precise technique, but infection is sometimes present at the time of operation, and some mechanical trauma may be "an unavoidable accompaniment of the operative procedure." If a secondary operation becomes necessary to divide the adhesions, some method of preventing reformation of the adhesion is especially desirable, particularly in persons showing an "adhesion diathesis" or "keloid tendency." In previous animal experiments, the authors have found that the introduction of papain solution into the peritoneal cavity was most effective in prevention of the formation and re-formation of adhesions. They have also used papain solution for preventing serosal adhesions in their clinical cases, and present an analysis of 231 cases in which this procedure has been used. Of these 231 cases, 122 had had previous operations, and in 46.9 per cent of these in which the type of operation was stated, it had been for adhesions and the relief of intestinal obstruction due to them. The period of observation following the operation in which papain solution was used was one year or more in 88.2 per cent of cases. In 224 cases in which the results are known, the result was classified as "excellent" in 186 cases, 83 per cent, and as "good" in an additional 13 cases, 5.8 per cent. The absence of symptoms is not a sure indication that no adhesions have formed, but since most of these patients had been observed for a year or longer, and remained clinically well, "it is a fairly good indication that probably most of them developed no adhesions." In 37 cases a subsequent operation was done, usually for the removal of some other viscera. In only 2 of these cases had many adhesions re-formed, and in one of these the patient had had an evisceration following the operation in which papain was used. In 13 (35.1 per cent) there were some adhesions present, but in 10 of these cases, the surgeon stated that "the adhesions were considerably less than at the previous operation." In 22 cases of this group (59.4 per cent) no adhesions were present although "many and massive adhesions" had been present at the previous operation in which papain solution was used. In the entire series of 231 cases, there were 4 postoperative deaths, none of which could be attributed to the use of papain solution.

COMMENT

The problem of postoperative intraperitoneal adhesions is a challenge to surgeons. In order to obtain evolutionary success every attempt to solve it requires a thoroughly trained and patient surgeon with the gift of originality, one whose basic philosophy is optimistic, whose practical work is checked by a watchful and pessimistic scepticism. He must be a physicist, a physiologist, a pathologist. These authors have accomplished a fine work. Starting in a previous study reported four years ago, work with digestive ferments in this field has been succeeded by work with papain. No harm has come to any patient. Reopened abdomens demonstrated freedom from adhesions which would usually be expected. "Tulane" has scored.

C. H. G.

A New Method in Treatment of Carcinoma of the Stomach and Rectum by Surgical Diathermy

● A. A. STRAUSS, S. F. STRAUSS and H. A. STRAUSS *(Southern Surgeon, 5:348-359, October, 1936)*, report that in 1913, they employed electrical coagulation (surgical diathermy) for the treatment of carcinoma of the rectum, and in 1935, they reported 42 cases treated by this method over a period of eight and a half years; since that time they have added 31 cases to the list; in these 73 cases there were 52 in which no preliminary colostomy was performed or necessary. There were only 2 postoperative deaths in the first series and none in the second. The authors now employ an instrument with an unbreakable fiber tube, and usually give three coagulation treatments; improvement in weight and blood picture is noted after the first or second application of diathermy. Some of the patients now living and well have been under observation eight or nine years, and "many" for three or four years. More recently the authors have employed the same method in the treatment of carcinoma of the stomach; the fiber tube of the instrument in these cases serves as a gastroscope. A jejunostomy is done for feeding the patient; a longitudinal incision is made in the anterior wall of the stomach. A "mild" coagulation is first done; one or two further coagulations, of "a more severe and thorough" type, are given at intervals of eight or ten days. The incision in the anterior wall of the stomach is kept open by the use of "an ordinary zipper" sutured between the mucosa and muscularis along the edge of the stomach. With this device the stomach can be opened at will for inspection and for the second and third diathermy treatments. Palpation shows the gastric walls to be smooth and soft after treatment is completed, and there is very little reaction to the coagulation treatments. One of the patients, who was extremely cachectic, developed pneumonia and died four months after treatment was completed. In the region where the carcinoma had been, there was "a tremendous amount" of connective tissue; some of the cancer cells were present but were pale and showed no mitosis; in many the nuclei had completely disappeared. These cases have been too recently treated to determine end results, but all were inoperable and the immediate results obtained surpass those obtained with any other method. The authors are convinced that surgical diathermy is more than a purely mechanical destruction of the cancer; they claim that "definite substances are produced by the coagulation of the tumor which are liberated and which render the cell inactive" as far as its malignant character is concerned.

COMMENT

Observations of great interest and an experiment to watch! We hope to read of five-year cures!

C. H. G.

Mercresin, a New Surgical Germicide

● W. G. MADDOCK, A. M. BOYDEN and R. L. MALCOLM *(American Journal of Surgery, 34:47-49, October, 1936)* report the use of a new mercurial germicide at the University of Michigan Hospital. This germicide, known as mercresin, contains an organic mercurial, orthohydroxyphenylmercuric chloride (mercarbolide) and a synthetic cresol derivative (pentacresol); mercresin tincture contains one part each of mercarbolide and pentacresol in 1,000 parts of a solution containing 50 per cent alcohol and 10 per cent acetone. A small amount of water soluble coloring material, Orange G, is added to this solution to define the area of its application. Many tests of this mercresin tincture have shown it to be an efficient germicide in dilutions up to 1 to 20, "a point where the alcohol and acetone are not irritating." Its action is rapid, and it has satisfactory penetrability. The alcohol and acetone in the tincture dissolve fat and generative cellular debris on the skin surface and thus favor penetrability. This germicide has now been used in 1,200 surgical cases and the percentage of wound infections was "consistently low"; it has also proved non-irritating to the skin. These results have been so satisfactory that mercresin has been adopted as the routine antiseptic for all general surgical cases at this hospital.

COMMENT

A new germicide with some demonstrated advantages. Is it to be the successor of iodine and mercurochrome? Twelve hundred cases in one hospital will not satisfy the sceptic. Let us have more records in more hospitals.

C. H. G.

Cow Horn Fixation in Bone Surgery

● W. B. CARRELL *(Surgery, Gynecology and Obstetrics, 63:636-639, November, 1936)* reports a trial of cow horn for fixation in bone surgery, as suggested by Fowler in 1934. While cow horn can be used in the forms of slabs, plates or straight or curved rods, it is most frequently employed in the form of pegs and nails. Cow horn has the advantage of a high tensile strength combined with enough flexibility for easy application. It can be sterilized by boiling for an hour and a half without loss of tensile strength. The author has had occasion to remove cow horn pegs and nails from fracture cases at various periods after reduction. From his findings, he concludes that absorption of cow horn placed in bone tissue is very slow, taking probably eight to twelve months. It is well tolerated, however, by the bone as a harmless foreign body and does not appear to interfere with the process of repair. The cystein content of cow horn remaining in bone tissue for six months was found to be approximately 75 per cent. of normal. The author concludes that the release of cystein from cow horn is too slow to be of value in stimulating bone repair, although some have claimed that cow horn has this advantage in bone injuries. In most cases the fracture will be united before any appreciable amount of cystein will be released, according to the author's findings; while in cases of delayed union the good effect which the cystein might have had will probably be overbalanced by other factors that interfere with healing.

COMMENT

A record of forty cases of fracture in which a comparatively new material has contributed to excellent results. Its value and limitations are analyzed.

C. H. G.

Can Sodium Evipan Injure the Kidney?

● J. PERVIS and P. BADELON *(Mémoires de l'Académie de chirugie, 62:1233-1237, Nov. 4, 1936)* note that it is usually stated on the basis of animal experiments that the barbiturate derivative, sodium evipan, has no injurious action on the kidneys. These authors have, however, studied 47 cases in which operations that were not of a serious nature have been done under sodium evipan anesthesia. Of these 47 patients, 14, almost 30 per cent., showed a definite albuminuria, sometimes quite marked, following operation; this albuminuria was not persistent. Of these 14 patients, 4 had shown a slight trace of albumin—less than 5 centigrams—prior to operation. In none of the cases was postoperative albuminuria accompanied by signs of nephritis. The albuminuria may, however, be considered to indicate that sodium evipan has some irritating action on the renal epithelium, which would not be of serious significance unless there was some pre-existing renal insufficiency. Recently the authors have observed a case in which sodium evipan was used as the anesthetic in an operation for perforated gastric ulcer. Although the patient was operated promptly and there was no peritonitis, an acute nephritis developed following operation which caused the patient's death. Autopsy showed an acute nephritis developing on the basis of a subacute interstitial nephritis. This acute nephritis could not be proved to be due to the action of the sodium evipan anesthetic alone, but the authors are of the opinion that this was a factor in the injury to the renal epithelium. At any rate they maintain that sodium evipan should not be used in emergency operations unless some definite information in regard to the patient's general condition, and especially the condition of the kidneys, is available. Renal insufficiency should be considered a contraindication to the use of sodium evipan as an anesthetic.

COMMENT

A note of caution concerning one of the newer anesthetics!

C. H. G.

Urology

Unsuccessful Plastic Operations for Hydronephrosis

● J. K. ORMOND *(Journal of Urology, 36:512-528, November, 1936)* reports 6 cases in which plastic operations for hydronephrosis were unsuccessful in relieving the obstruction; in 5 of these the obstruction was at the uretero-pelvic junction; in one in the ureter (stricture). There was no death in this series, and in 2 of the cases "apparent" success was achieved by secondary operations. From his experience

in these cases and from a review of other reported cases of failure of plastic operations in hydronephrosis due to obstruction in the ureter or at the uretero-pelvic junction, the author comes to the following conclusions: The Heinecke-Mikulicz operation is not suitable for such cases. Ureteropyeloplasty of any type does not appear to have any advantage over reimplantation of the ureters. The following procedure gives good results: Resecting the uretero-pelvic juncture, cutting the ureter "on a slight bias" to lessen the likelihood of stricture due to contraction of the suture line, reimplantation to the lowest portion of the pelvis with accurate apposition of the cut edges not allowing the ureter to protrude into the pelvis. A splinting catheter should be used in all cases and the first sutures made as the ureter and pelvis lie *in situ*. There should be "no haste" in removing this catheter. A preliminary nephrostomy should be done if there is acute or marked infection. A nephropexy should be done whenever the kidney is not "bound down" by adhesions. Plastic operation, the author believes, should be reserved for those cases in which "the conservation of renal function is imperative."

COMMENT

In all plastic surgery the slightest tension spoils the operation. In this class of tension belongs an obstruction in the ureter not relieved before the operation or an obstruction due to slight ptosis of the kidney following the operation. It is a serious oversight not to dilate the ureter to such a size that obstruction is relieved before the operation. It is very difficult not to loosen the kidney from its bed for full access to its pelvis so much that it invites if not induces a new twist or kink of the ureter. For these reasons the question comes up: Why should these plastic repairs be done until after full dilatation has been made permanent in the ureter and a positive relief of the infection (which is present in most cases) secured?

V. C. P.

Beta-Hydroxybutyric Acid and Certain of Its Salts in the Treatment of Infections of the Urinary Tract

● E. N. COOK of the Mayo Clinic *(Journal of Urology, 36:289-297, September, 1936)* notes that the ketogenic diet, as used in the treatment of urinary infections, is not always well tolerated by the patients and may cause "unpleasant general and gastro-intestinal symptoms." For this reason he has searched for some adjunct to the treatment, which would increase the efficiency of the diet and alleviate these symptoms. Recent investigations by Fuller have shown that the substance excreted in the urine of patients on the ketogenic diet which is chiefly responsible for the bactericidal effect is the levorotatory form of betahydroxybutyric acid; these findings have been confirmed by Helmholz and Osterberg. Fuller suggested the administration of betahydroxybutyric acid by mouth as a supplement to the ketogenic diet to increase the excretion of this acid. Cook has found that if synthetic racemic betahydroxybutyric acid is given by mouth in doses of 2 gm. three times a day (before meals), the urinary excretion of the acid is definitely increased if a satisfactory ketosis has been induced by the ketogenic diet. If the sodium salt of betahydroxybutric acid is given by mouth the increase in the urinary excretion of this acid is less than with the oral administration of the pure acid. If the calcium salt is given intravenously there is no definite increase in the excretion of the acid (3 cases). In 9 patients in whom definite ketosis had been induced by the ketogenic diet, the administration of the synthetic racemic betahydroxybutyric acid resulted in bacteriologically negative urine in 8 cases; 6 of these patients had previously failed to respond satisfactorily to the ketogenic diet alone. It was also found that local instillations of a 2 per cent solution of betahydroxybutyric acid buffered to a pH of 4.4 to 4.5 by sodium bicarbonate solution, were of definite benefit in cases where the ketogenic diet alone had not given satisfactory results or the patients could not tolerate this dietetic régime. In 7 of 10 patients so treated the urine promptly became bacteriologically negative; and in 2 of the remaining 3 cases, symptoms were markedly relieved; only one of these cases failed to benefit from this treatment.

COMMENT

The underlying uncertainty of all dietetic treatment is that there is no one way to be certain of the same or similar assimilation of it among a series of patients. As Cook admits, ketogenic diet is not al-

ways well-borne, liked or assimilated. That has been the teaching of Bassler and other gastro-enterologists for a couple of years and urologists are learning it now. The addition of the product of successful ketogenic diet, namely, betahydrozybutyric acid, is eminently sensible. The question arises whether a way may not be found to build up its dosage with the aid of bicarbonate of soda or other salt and thus decrease the severity of ketogenic diet. In my observation patients on a diet not only sicken of it very soon but also sink into the invalid complex and thus add another case of digestive disorder.

The Problem of Anuria

● A. W. CUBITT *(British Journal of Surgery, 24:215-226, October, 1936)* reports 2 cases of anuria neither of which "can be certainly put in the class of reflex anuria." In the first case, the right kidney was obstructed by a stone, which was later passed spontaneously. The left kidney was apparently functionless, as no urine came from the left ureter, and the radiogram showed no shadow of this kidney. The shadow of the right (obstructed) kidney was, however, "extraordinarily distinct," presumably because of the congestion. Restoration of the flow of urine, probably due to the passage of the stone on the right side into the bladder, followed the intravenous administration of normal saline solution. After the relief of the anuria the radiogram showed no shadow of either kidney, but after the intravenous injection of uroselectan, the pelvis and calices of the right kidney were well visualized, but the left kidney showed no secretion of uroselectan at any time. In the second case, complete anuria followed the operation of nephropexy on the right side. Prior to the operation both kidneys showed normal function. The anuria was probably due to the effect of "an acute and virulent infection" possibly with an added element of obstruction by a clot; the clot was later seen in the bladder when cystoscopy was done. The flow of urine was arrested and the symptoms relieved by a combination of glucose solution given intravenously, spinal anesthesia, and bilateral ureteral catheterization. The author reviews recent work on the physiology of the kidneys, and especially their blood supply, and suggests an explanation of reflex anuria as follows: Spasm of one ureter resulting from obstruction sets up afferent impulses which, either by reflex action or the release of some hormone substance, cause vascular changes in the opposite kidney, an alteration in capillary permeability, and an exudation of fluid into the renal parenchyma; the raised intrarenal pressure obstructs the tubules and raises the urine pressure, opposing filtration; and also causes venous obstruction so that the kidney becomes congested. While the author finds no other case reported in which spinal anesthesia has been used in the treatment of anuria, he believes it to be "a rational therapeutic measure worthy of trial in cases of reflex anuria," for whatever the etiology of this condition, "the afferent path at least must be a nervous one."

COMMENT

No matter where a spasm is the relaxation of an anesthetic or of any other profound antispasmodic is indicated. The late Robert F. Weir taught me the value of the following tablet to prevent urethral chill, which in many patients is a factor of spastic anuria or oliguria. I always give one or two tablets after instrumentation and have never seen a urethral chill among my own patients. The tablet contains morphine gr. 1/6, quinine gr. 3, and fluid extract of aconite drops 2. Two tablets give a definitely full dose. One tablet is usually sufficient. I am wondering whether in the presence of reflex or spastic anuria two tablets at one dose, followed by others at 4 to 6 hour intervals up to mild morphinism, might not simplify the whole problem. It is my intention to follow this plan with the next patient and to publish the result.

V. C. P.

Tonsillectomy in Acute Diffuse Glomerulonephritis

● H. BEST *(Zentralblatt für innere Medizin, 57:841-853, Oct. 3, 1936)* reports that at Volhard's Clinic at the University of Frankfurt a. M., there were 98 cases of acute diffuse glomerulonephritis in 1927-1934. Of these 21 showed a definite hypotonic phase, *i.e.*, lowering of the blood pressure below normal, following a phase of hypertonia; 29 cases showed alternating phases of high or normal and low blood pressure; and 28 cases showed no hypotonic phase. The occurrence of a hypotonic phase after the initial fall in blood pressure appeared to be a sign of an uncomplicated recovery. In the cases where this

hypotonic phase did not occur or did not persist, an acute or chronic tonsillar infection was often the cause of the delayed recovery. In 41 of these cases tonsillectomy was done, although definite evidence of tonsillitis was not found in all cases but in these also the course of the disease was prolonged. In 20 of the 41 cases there was a temporary exacerbation of symptoms following tonsillectomy, but most of these were operated in a comparatively early stage; and in all cases, the course of the disease was definitely shortened, and the blood pressure lowered or stabilized at normal or slightly below normal levels, following the operation.

COMMENT

This paper does not indicate the fixed policy in this clinic of removing any actual or potential source of infection elsewhere in the body. Such relief of foci of infection is always sound and always in order. Seemingly delayed recovery was the signal for removing diseased tonsils. The uniform result was a great benefit of the nephritis. It must have been of similar benefit to the whole system because an infection in the tonsils which has already affected the kidneys is "ready and waiting" to attack elsewhere, notably the circulatory organs. Preventive and curative measures are not separable in any disease.

V. C. P.

Relationship Between the Chemical Composition of Renal Calculi and Associated Bacteria

● J. T. PRIESTLEY and A. E. OSTERBERG *(Journal of Urology, 36:447-453, October, 1936)* report a study of 193 cases of urinary calculus, with special attention to the bacteria present in the urine and the urinary pH prior to removal of the stone. There were 93 cases in which the stones were composed chiefly of calcium oxalate; 71 cases with calcium phosphate stones (associated with calcium carbonate); and 29 cases with urate stones. A high percentage of the oxalate stones were removed from the kidney or ureter (82.8 per cent.), only 17.2 per cent. from the bladder. Of the phosphatic calculi 61.9 per cent. were removed from the kidney and ureter, 38.1 per cent. from the bladder. But 51.7 per cent. of the urate stones were removed from the bladder. In the cases in which the stones were removed from the bladder, the history indicated that all three types were more frequently found in the kidney. It is probable that uric acid stones are smaller and leave the kidney to pass into the bladder more frequently than oxalate or phosphate calculi. In both oxalate and urate stones the urinary cultures were negative in the majority of cases (71.9 per cent of oxalate stones, 78.9 per cent. of urate stones); but 58.8 per cent. of phosphate stones were associated with urinary infection. *Escherichia coli* was the predominating organism with oxalate and phosphate calculi, being found in 17.7 per cent of the cases with phosphate calculi. The relatively high incidence of this organism associated with urinary calculi of different chemical composition, the authors note, "seems surprising when one thinks of the many patients who have had bacillary pyelonephritis for years without urinary calculi." *Proteus ammoniae* was also found with relative frequency in cases with phosphatic calculi (13.8 per cent.), but this is to be expected "because of the resultant phosphaturia caused by the increase in the pH of the urine." Streptococci predominated in cases of urate calculi (10.5 per cent.) and were found with 7.9 per cent. of phosphate calculi and 5.4 per cent. of oxalate calculi. Other organisms were found less frequently, but the wide variety of these organisms indicates that "many different types of bacteria may be associated with the precipitation of stone." In 70 cases the pH of the urine was determined; the average was 5.8 for all cases, the cases with phosphate calculi showing a pH above the average (6.2). The average pH was higher in cases with positive urine cultures, averaging 6.3 for all types of calculi, and 6.5 for the phosphate calculi. A high pH is "not often solely responsible for the formation of stones," as it is uncommon for peptic ulcer patients on an alkaline regimen to develop urinary calculus; a high pH is more probably "a secondary rather than a primary factor in the development of the calculus."

COMMENT

The vicious circle in calculus formation is still obstruction, stagnation, decomposition, infection and precipitation. The source of the bacteria in the great majority of cases is the intestinal canal. In the series noted in this careful study the colon bacillus is very prominent if not dominant. The source of any kind of bacteria can be found only by studying the bacteria in the

feces, from the tonsils and in the sinuses of the nose or other foci. In addition to the intestines as a source of the bacteria themselves the malassimilation which must be associated with the growth of the bacteria may be, or indeed must be, another factor. The kidneys are the filters of urinary secretion or the grate bars of the human furnace. The coal must be good and the stoking complete, otherwise clinkers will form. Calculi, in my opinion, are the chief symptoms of complex processes gone wrong and not the product of a chief factor incidentally present.

V. C. P.

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Pediatrics

Protamine Insulin in Childhood

● G. L. BOYD *(Journal of Pediatrics, 9:417-420, October, 1936)* reports the use of protamine insulin in the treatment of diabetes in 25 children at the Hospital for Sick Children, Toronto, Canada. In none of these children was control of the disease impossible with the usual form of insulin, but in some, four doses of insulin were necessary—one before each meal and one at midnight. With protamine insulin, or with protamine insulin and the old insulin, equally good, "if not better," results were obtained with only two doses a day. If the protamine insulin alone was used, it was found best to give the injections at 8 A. M. and 8 P. M., without regard to meal time. In the milder cases, the disease could sometimes be controlled with only one dose of protamine insulin, usually given one hour before breakfast. Reactions did not occur in these cases, or were less severe and less frequent than with the old insulin. The time of a reaction is much longer after the insulin is given with protamine insulin because of the slower fall in the blood sugar; with these children, reactions were most likely to occur in the late afternoon or at breakfast time, that is, at a time when the child is at home, and any reaction can be controlled. Reactions did not occur at night, and as a rule the patients had a more restful sleep than with the old method of control. In making the adjustment to protamine insulin, frequent blood sugar determinations should be made, and the dosage regulated to prevent to marked a drop in blood sugar, or otherwise there may be a feeling of weakness and tiredness, even if no more marked reaction. Well-adjusted patients, however, note an increased well-being. The author regards the use of protamine insulin as "a distinct advance" in the treatment of diabetes in children.

Cancer in Childhood

● E. KLEMT *(Monatsschrift für Kinderheilkunde, 66:406-413, Aug. 24, 1936)* reports 3 cases of cancer occurring in children at the Children's Clinic of the University of Leipzig. One of these was a case of skin cancer developing on the basis of a xeroderma pigmentosum; such cases of skin cancer occur fairly frequently in children. The other 2 cases were carcinoma of the intestines; in one a diagnosis of intestinal tuberculosis was made; there was temporary improvement after Roentgen-ray irradiation of the abdomen; then the tumor became palpable and the child died without operation, the carcinoma being found at autopsy. In the third case, the patient was operated once for appendicitis and twice thereafter for intestinal obstruction; the tumor being found at the third operation. The child made a good recovery from a radical operation. The delay in the diagnosis of these two cases is due to the fact that the possibility of intestinal carcinoma in childhood is not given sufficient consideration. Yet intestinal cancer is more frequent than any other type of carcinoma at this age; ovarian cancer occupying second place and skin cancer third place in order of frequency. The author notes that in these cases of intestinal carcinoma in children the red cell sedimentation showed less acceleration than is common in intestinal carcinoma in adults.

The Decline of Tuberculous Infection in Children

● P. W. BEAVEN *(American Journal of Diseases of Children, 52:565-586, September, 1936)* reports a study of the reaction to tuberculin and the incidence of clinical tuberculosis in children one to fourteen years of age in Rochester, N. Y., from 1926 to 1934 (inclusive). During this period 4,982 children were tested with old tuberculin at the Strong Memorial Hos-

pital and the Rochester Municipal Hospital. Of this number 480, or 9.6 per cent., gave a positive reaction. The number of children giving a positive reaction increased as age advanced, but the significance of a positive reaction was greater in the younger age group, for 52 per cent. of children one to five years of age who had a positive reaction to tuberculin showed clinical or roentgenological evidence of tuberculosis, while only 41 per cent. of those six to fourteen years of age with a positive reaction showed such evidence. Death from tuberculosis occurred more frequently in the younger age group. Known exposure in a child is "in general synonymous with continued exposure and is directly related to the seriousness of the disease." In the tuberculin positive children without clinical or roentgenological evidence of tuberculosis, there was a definite history of exposure to infection in only 13.8 per cent.; while in those with definite signs or symptoms of the disease, there was a definite history of exposure in 38 per cent. The proportion of children with positive tuberculin reactions showed a decline of 64 per cent. in the period of this survey; reports from other communities show "a somewhat similar decline" in the incidence of tuberculous infection in children. In those who were infected, however, there was no tendency for the disease to be less severe; but on the contrary, in the last three or four years, a somewhat higher percentage of children with a positive tuberculin reaction showed definite clinical signs or roentgenological evidence of tuberculosis than in the earlier years of the study. There has been no change in the age incidence or in the mortality among infected children. The decrease in the number of children with tuberculous infection has been attended by a similar decrease in the number of deaths from tuberculosis and by a diminution in the number of reported cases of clinical tuberculosis in the City of Rochester, N. Y. As there is no evidence that the virulence of the tubercle bacillus is growing less, the decline in the incidence of tuberculous infection in children must be "because fewer persons are infected with this organism."

Banana Therapy in Diarrheal Diseases in Infants and Children

● C. L. JOSLIN *(Southern Medical Journal, 29:1007-1011, October, 1936)* reports the treatment of various diarrheal diseases in infants and children with banana in the form of banana powder or the raw, fresh, fully ripe fruit. When the banana powder was used, it was given for the first twenty-four hours only in water, then with one of the milks—either the regular milk formula, substituting the banana for the carbohydrate usually employed, or with protein milk, fat-free bulgarian buttermilk, or boiled skim milk, according to the nature and severity of the diarrhea. The raw fruit was mashed and put through a fine sieve. The cases treated included 30 cases of diarrhea, 15 cases of dysentery and 10 cases of typhoid fever. In the groups with diarrhea and dysentery, the duration of the disease was much shorter than in the control groups not given banana therapy; there was "an immediate and appreciable reduction in the number of stools;" and there was also slight gain in weight, as compared with a loss in cases not given banana. The banana therapy was not of definite benefit in typhoid fever except in cases with a diarrhea, in which it proved effective in relieving this symptom. In the cases of diarrhea in infants the banana powder proved very effective, but in diarrhea and dysenteries in older children, the raw fruit was most effective.

Treating Celiac Disease as a Vitamin Deficiency

● C. V. RICE *(Archives of Pediatrics, 53:626-629, September, 1936)* reports 3 cases of celiac disease in which he found that fat could be given in the form of evaporated milk added to a high protein diet, and sugar in the form of wheat germ sugar. Wheat germ sugar has a high vitamin B content. These children were also given vitamin concentrates in the form of vitavose or spintrate and cod-liver oil tablets; in one case vitamin B was given in the form of powdered yeast instead of wheat germ. In 2 cases calcium gluconate was also given. All these children have been entirely relieved of symptoms. In the first case, treatment was begun at the age of eighteen months, and the child is now eight years old and "in perfect

health"; in the second case, treatment was begun at the age of five years, and the child is now entirely well four years later. In the third case, the child was two and a half years of age when treatment was begun, and thirteen months later was well on a diet normal for her age, including bananas and orange juice, with the addition of cod-liver oil tablets and rizamin for vitamin B. These cases were given no laxatives or other medication—only diet and "other elements" with high vitamin content.

Relation of Physical Defects to Nutritional Impairment in Children

● W. M. GAFAFER of the United States Public Health Service *(American Journal of Medical Sciences, 192:669-673, November, 1936)* reports examination (by various physicians) of approximately 30,000 white children six to fifteen years of age in 21 states representing chiefly the northeastern and central regions of the United States. It was found that 44.7 per cent. of the boys and 45 per cent. of the girls examined had one or more physical defects, chiefly carious teeth, defective tonsils, and adenoids. The nutritional status was judged poor or very poor in 6.5 per cent. of the boys and 10.2 per cent. of the girls with physical defects, but in only 3.8 per cent. of the boys and 5.2 per cent. of the girls without physical defects. The difference between these percentages for the physically defective and the physically non-defective for each sex and for the two sexes combined is "statistically significant," in the author's opinion, and indicates that physical defects are definitely associated with nutritional impairment.

CINCHOPHEN—IS THERE A SAFE METHOD OF ADMINISTRATION?

In this paper, WALTER LINCOLN PALMER and PAUL S. WOODALL, Chicago (*Journal A. M. A.*, Sept. 5, 1936), attempt to answer the question "Can cinchophen be given safely if given carefully?" The question itself implies that cinchophen is a dangerous drug. Cinchophen, phenylcinchoninic acid, seems to have been discovered in 1887 by Doebner and Gieske and to have been introduced into medicine under the trade name of atophan in 1908 by Nicolaier and Dohrn. Since that time it has been used extensively for gout as well as for other forms of arthritis and for the relief of pain of all types. In 1932 Hench listed thirty-two drugs known to contain cinchophen or its derivatives as the active constituent and stated that he had accumulated the names of 500 remedies advertised in American drug lists as cures for rheumatism or as uric acid solvents, many of which undoubtedly possess cinchophen as the base. It has been estimated by White that the annual consumption of cinchophen and its derivatives in the United States is about 90,000 pounds. No serious effects were noted from cinchophen until 1913, when Phillips described certain skin reactions as indicative of an idiosyncrasy to the drug. In 1922 Schroeder called further attention to its toxic effects. The first case of jaundice attributed to cinchophen was reported in 1923 by Worster-Drought and the first fatal case with jaundice two years later by Richard Cabot. In the decade that has elapsed, an increasing number have been reported. It is, of course, obvious that the vast majority of patients are able to take cinchophen over long periods of time without apparent injury. The nature of the peculiar hypersusceptibility that results in the occasional case of jaundice and death is obscure. It is the authors' purpose in this paper to review the reported cases in an effort to ascertain, if possible, what relationship exists between dosage and toxicity and whether or not cinchophen can be given safely if given cautiously. The authors show that in the past decade there have been described 191 cases of jaundice following the administration of cinchophen or its derivatives, including neocinchophen. Of these, eighty-eight ended fatally, a mortality rate of 46.3 per cent. The actual incidence of this sequence is undoubtedly much higher than the published reports would indicate. Instances have been cited in which the long continued use of cinchophen has been without apparent harm until the sudden appearance of jaundice followed by dramatic death. In some cases the administration of very small doses of the drug under careful observation with immediate withdrawal on the first evidence of toxicity has nevertheless proved fatal. It is therefore concluded that there is no safe method for the administration of cinchophen.

Medical Book News

All books for review and communications concerning Book News should be addressed to the Editor of this department, 1313 Bedford Avenue, Brooklyn, New York.

Edited by TASKER HOWARD, M.D.

WILLIAM WOOD GERHARD
1809-1872

Classical Quotations

● The fact that the morbid changes pathognomonic of dothienenteritis [typhoid fever] are not met with in the typhus fever, would of itself seem conclusive that the two diseases are no more identical than pneumonia and pleurisy. Although, in some respects, the two affections are analogous, and even similar, the radical difference of anatomical lesions is at least as well marked as the distinction between the symptoms.

William Wood Gerhard, *American Journal of the Medical Sciences*. 19:289, 1837.

Holmes & Ruggles New Edition

ROENTGEN INTERPRETATION: A MANUAL FOR STUDENTS AND PRACTITIONERS. By George W. Holmes, M.D., and Howard E. Ruggles, M.D. Fifth edition, thoroughly revised. Philadelphia, Lea & Febiger [c. 1936]. 356 pages, illustrated. 8vo. Cloth, $5.00.

● The present edition is the fifth which has been published. That in itself is a clear index of how well this book has been received and is also a measure of its value to all interested in roentgenology.

To one like your reviewer who has had many years of friendship with one of the authors, this volume is just what one would expect. The whole book is intensely practical and is of the best quality both for text and illustrations. There are so many practical points such as is shown on page 15—"rules which form the basis of successful roentgen interpretation" and, then, the first chapter dealing with "Confusing shadows and artefacts." A careful study of this chapter alone would save many an embarrassing situation.

Chapter 2, dealing with "Anatomical variations and development" with the table of the "appearance of centers of ossification" and times of epiphyseal union, is extremely valuable.

The remainder of the book dealing with roentgen diagnosis per se may well serve not only as a text-book for those less familiar with roentgenology but also as a ready reference to the roentgenologist who may need confirmation of his opinions.

If the roentgenologist were to be limited to a single volume this book would supply everything necessary.

CHARLES EASTMOND.

A New Yeomans

PROCTOLOGY. A Treatise on the Malformations, Injuries and Diseases of the Rectum, Anus and Pelvic Colon. By Frank C. Yeomans, M.D. Second edition. New York, D. Appleton-Century Company [c. 1936]. 661 pages, illustrated. 4to. Cloth, $12.00.

● The fact that after seven years a second edition of this book is published is ample proof of its excellence. The arrangement of this edition is the same as that of the previous one. There are four hundred and twenty-one illustrations many of which are new. Numerous changes and additions have been incorporated in the text, bringing it up to date. As the author states in his preface, the notable changes are: technic of phenol in oil solution for the injection treatment of hemorrhoids; the use of oil-soluble anesthetics in pruritus ani, fissures etc.; radiodermatitis; histopathology of anal crypts; recent views on the etiology and therapy of chronic ulcerative colitis; pharmacological classification of drugs used in amebiasis, and the therapeutic results of same; agranulocytic angina—anorectal involvement; lymphopathic venerea in the etiology of rectal stricture; results of sympathetic ganglionectomy and ramisectomy in megacolon;

melanosis coli; pectinosis and pectenotomy; section on angiomata of colon and rectum has been rewritten; subarachnoid injection of alcohol for relief of intractable pain in advanced malignant disease; two-stage operation for carcinoma of the rectum—the technic of Rankin and Lahey; revised statistics of the results of treatment of rectal carcinoma by irradiation and by excision.

It is the reviewer's opinion that this is one of the finest books on the subject.

MARTIN MARINO.

New Edition of a Standard Pharmacology

A MANUAL OF PHARMACOLOGY AND ITS APPLICATION TO THERAPEUTICS AND TOXICOLOGY. By Torald Sollmann, M.D. Fifth edition, entirely reset. Philadelphia, W. B. Saunders Company [c. 1936]. 1190 pages, illustrated. 8vo. Cloth, $7.50.

● The fifth edition of this authentic work, which has held for many years a reputation of the highest order, was made to conform to the recent revisions of the United States Pharmacopeia (1936) and British Pharmacopeia (1932).

Those topics in which there have been important and extensive developments have undergone revision. They include among others: granulocytopenia, amebicides, anterior pituitary and sex hormones, dinitrophenol, histidine, iron therapy, mercury poisoning, oxygen therapy, and vitamins.

The fifth edition will be welcomed as an authoritative statement of current views on the subject. For the purpose of the student, the whole subject of pharmacology —experimental and applied, is adequately covered.

CHARLES SOLOMON.

A New English Work on Toxemias of Pregnancy

THE TOXAEMIAS OF PREGNANCY. By Dame Louise McIlroy, M.D. Baltimore, William Wood & Company [c. 1936]. 355 pages. 8vo. Cloth, $5.00.

● This book is a resumé or compilation of the present day knowledge of the toxemias of pregnancy. An excellent bibliography is amplified in the text, by brief exposition of the results of a great many recent investigations of the subject. McIlroy's own views appear here and there, and it appears that she considers it a deficiency disease, and is satisfied to abandon search for the elusive toxin. The book is creditable, and useful to one who wishes to find out quickly just how little is known about the toxemias. Very little is certain, and there is nothing new except that wider avenues of research in metabolism possibly make the outlook more promising. Eclampsia must still be treated on the basis of deductions made from clinical observations.

CHARLES A. GORDON.

Adventures in Public Health Administration

AN AMERICAN DOCTOR'S ODYSSEY. Adventures in Forty-five Countries. By Victor Heiser, M.D. New York, W. W. Norton & Company, Inc. [c. 1936]. 544 pages. 8vo. Cloth, $3.50.

● When a book sells more than one hundred and ten thousand copies to the general public and receives the warmest praise of eminent critics and authors, it must possess qualities of a high order. Dr. Heiser's "Odyssey" is brilliantly written, replete with interesting personalities and anecdotes, with the necessary scientific explanations and historical background carefully worked in.

This is the autobiography of an American physician who spent his life in the Public Health Service. As a boy he was miraculously saved from the Johnstown Flood, which left him alone in the world. At sixteen, he took a job as a plumber's assistant to support himself. He later worked his way through medical school, took the examination for the United States Public Health Service and passed at the head of the list.

While stationed in Naples as a United States immigration inspector, an attempt was made on his life by a native for his refusal to allow the latter, as a diseased immigrant, to embark for the United States. When this country assumed control of the Philippine Islands, Dr. Heiser was appointed Chief Quarantine Officer there, and during his ten-year tenure of that office, the islands were freed from the many epidemics of tropical diseases which wiped out the natives by the tens of thousands. As a representative of the Rockefeller Foundation, his primary interest was to preserve and prolong life among the aboriginal tribes. He contended that health should be regarded from the economic as well as the humanitarian viewpoint. He covered forty-five countries and circled the globe sixteen times in the pursuit of his work.

He tells superbly an interesting, amusing and sometimes exciting and dangerous story.

The book is enthusiastically recommended by this reviewer. A glossary explaining native words and idioms used throughout the work would constitute a welcome addition.

WILLIAM RACHLIN.

A New Edition of Cushny

A TEXT-BOOK OF PHARMACOLOGY AND THERAPEUTICS OR THE ACTION OF DRUGS IN HEALTH AND DISEASE. By Arthur R. Cushny, M.D. Eleventh edition, thoroughly revised by C. W. Edmunds, M.D., and J. A. Gunn, M.D. Philadelphia, Lea & Febiger, [c. 1936]. 808 pages, illustrated. 8vo. Cloth, $6.50.

● The first edition of Cushny's work appeared in 1899 and later editions have maintained the critical and scientific character of the book. The author's contributions to medical science are well known. Probably the most important of these are his studies in the pathological physiology of the mammalian heart, of the cardiac arrhythmias and particularly his monographs, "The Action and Uses in Medicine of Digitalis and Its Allies" 1925 and "The Secretion of the Urine," 1917. These may be properly mentioned in a review as they form part of the background of the book and established Cushny's place in the very first rank of investigators.

The present edition has been very well handled by the collaborators and brought in line with the 1936 revision of the United States Pharmacopeia.

W. E. MCCOLLOM.

Some Observations on the Living Brain

THE INTELLECTUAL FUNCTIONS OF THE FRONTAL LOBES. A Study Based Upon Observation of a Man After Partial Bilateral Frontal Lobectomy. By Richard M. Brickner, M.D. New York, The Macmillan Company [c. 1936]. 354 pages. 8vo. Cloth, $3.50.

● Dr. Brickner had under his care a patient who had both frontal lobes removed for extirpation of a brain tumor. The patient was critically and exhaustively surveyed from every possible angle, and his behavior patterns carefully recorded. The book is therefore a unique record of an exceptional case of a human being's behavior after bilateral lobectomy. There is a bibliography appended as a guide to those who would pursue the subject as presented by other observers. A preface by Dr. Frederick Tilney enhances the value of the book. It is a fine work, and leads one to expect further valuable contributions by its author.

IRVING J. SANDS.

Contribution to Endocrinology

THE ADRENALS. By Arthur Grollman, M.D. Baltimore, The Williams & Wilkins Company [c. 1936]. 410 pages, illustrated. 8vo. Cloth, $5.00.

● Dr. Grollman has collected all available, pertinent information on the adrenal glands from embryological, physiological, anatomical, pharmacological and clinical viewpoints.

The recent separation by comparative anatomists and histologists of the adrenal into three components by adding the "androgenic tissue" to the already known medulla and cortex makes us revise our opinions as regards the origin of tumors in the adrenal, and stimulates new investigations of the ardenogenital syndrome, adrenal virilism, etc. The recent studies of the importance of the electrolytes and fluid balance in Addison's disease are well reviewed. A discussion of the preparation and standardization of adrenal cortical extracts with the clinical shortcomings should interest the physician who is planning to use these preparations as well as the laboratory man who is working in this field. The author spends much space in describing his own methods of preparation and tests of potency; much of this work has been and will probably be further corroborated but cannot be considered final as yet. The author expounds the oral administration of his preparation.

The book should prove interesting and informative to the endocrinologist and research worker, but its usefulness to the general practitioner is limited.

MURRAY B. GORDON.

Experiments in Immunology

TISSUE IMMUNITY. By Reuben L. Kahn, M.S. Springfield, Charles C. Thomas [c. 1936]. 707 pages, illustrated. 8vo. Cloth, $7.50.

● This book is a survey of the author's extensive investigations on tissue immunity. The method mainly employed is that of injecting diphtheria toxin at one point of the body whereas antitoxin as an antigen is injected into the various tissues. From the amount of antitoxin needed for the neutralisation of the toxin the binding capacity of various tissues is determined. These experiments were carried out in immunized and non-immunized animals.

The first sign of tissue immunity is an increased binding capacity. Experiments with vaccines are also included. The results are discussed with regard to their practical and theoretical significance. The book is not a textbook for the student, but it contains many facts and theoretical considerations of interest to the specialist in the field of immunity.

ULRICH FRIEDEMANN.

Macalpine on Cystoscopy

CYSTOSCOPY AND UROGRAPHY. By Jas. B. Macalpine, F.R.C.S. Second edition. Baltimore, William Wood and Company [c. 1936]. 478 pages, illustrated. 8vo. Cloth, $9.00.

● This second edition of the author's work on Cystoscopy, published 1927, has been altered and materially extended to include the more modern Urography. Many new chapters have been added so that the book comprises nearly five hundred pages of clear, concise and comprehensive text. There are about three hundred excellent and useful figure illustrations including fourteen pages of colored plates, vividly depicting normal and pathological states of the urinary tract. Special commendation is due the author for the quality and perfection of these colored plates.

The opening chapter gives a brief historical survey of the development of the cystoscope. Every phase of the subject of urological diagnosis is presented as well as the optical features of the cystoscope and its mechanical manipulations. Fine judgment is revealed in the selection of material and the way in which the book is balanced.

While the work is intended chiefly for the embryo urologist, it may be used to advantage by those of wider experience as well as surgeons interested in urological training. The chapter entitled "Pelvic Resorption" should be of particular interest to all urologists.

The reviewer cannot say too much in praise of Mr. Macalpine for his contribution of such a complete, beautifully illustrated and thoroughly scientific book.

AUGUSTUS HARRIS.

Recent Work on Ferments

EXPERIMENTAL ENZYME CHEMISTRY. By Henry Tauber, Ph.D. Minneapolis, Burgess Publishing Company [c. 1936]. 118 pages, illustrated. 4to. Cloth, $3.50.

● Recent developments in enzyme chemistry represent a field which will fascinate the physician who follows the contributions of the sciences allied to medicine.

The author has collected in this monograph, the recent researches in enzyme chemistry. He discusses the laws that control enzyme action, factors which inhibit and accelerate its effect, and its chemical nature and crystallization.

The following chapters are devoted to a description of each known enzyme that goes to constitute the general classification of esterases, proteolytic enzymes, amidases, carbohydrases, catalases and oxidizing enzymes.

The book contains a bewildering array of material and illustrates how the remarkable contributions in a highly specialized field of chemistry can eventually influence medical thought.

WILLIAM S. COLLENS.

Herrmann on the Heart

SYNOPSIS OF DISEASES OF THE HEART AND ARTERIES. By George R. Herrmann, M.D. St. Louis, The C. V. Mosby Company [c. 1936]. 344 pages, illustrated. 12mo. Cloth, $4.00.

● This handy volume is crammed full of valuable information for the general practitioner. It is a thorough resume of modern cardiology, presented in a simple and readable form. The chapters on the electrocardiogram in connection with clinical aspects of a cardiac case prove most interesting reading. The value of electrocardiographic study is pointed out in the possible cardiac as well as the unsuspected myocardial changes in diphtheria and acute rheumatic fever. The diagnosis and prognosis of chronic valvular disease is frequently aided by the electrocardiogram. It is also of great importance in coronary disease, and the successive curves of coronary thrombosis reveal the clinical improvement that takes place. It is also a valuable check in digitalis and quinidin therapy. Present-day views respecting the failing heart are clearly set forth with special reference to anoxemia, the retarded removal of metabolic processes and the chemical imbalance in conjestive heart failure. Cardiac pain, the differential diagnosis in coronary thrombosis as well as the modern treatment of oedema are chapters replete with information of greatest importance to the general practitioner.

SIMON FRUCHT.

A New Laboratory Manual

CHEMICAL PROCEDURES FOR CLINICAL LABORATORIES. By Marjorie R. Mattice, A.B. Philadelphia, Lea & Febiger [c. 1936]. 520 pages, illustrated. 8vo. Cloth, $6.50.

● This book contains an excellent description of most methods utilized in the average biochemical laboratory. The author covers the field rather widely in a brief fashion. The methods selected are based on personal experiences, most of which this reviewer can endorse. In some cases, however, accuracy is sacrificed for convenience. In dealing with nitrogen estimation, for example, Nessler's colorimetric procedure is selected whereas microtitration of the ammonia absorbed in boric acid is far more reliable and just as simple. The treatment in general is rather elementary, resulting in an incomplete interpretation of the material. Moreover, there is a definite lack of a critical discussion of the fundamental principles involved in the analytical procedures. "The none-too well equipped technician," however, will find this book quite valuable since it presents theoretical subjects like hydrogen ion concentration or acid base balance in such a clear, although elementary manner, that there will be little difficulty in following the text. The book should also have an appeal to the busy clinician who is interested in chemical procedures.

A. E. SOBEL.

On Oral Diseases

ORAL DIAGNOSIS AND TREATMENT PLANNING. A Text for the Dental Student, A Reference Book for the Practitioner and Medical Student. By Kurt H. Thoma, D.M.D. Philadelphia, W. B. Saunders Company [c. 1936]. 379 pages, illustrated. 8vo. Cloth, $6.00.

● This is a very comprehensive work on oral diagnosis, the best that it has been our privilege to read. In its less than 350 pages it covers the subject quite thoroughly, explaining and illustrating not only usual everyday lesions but also those lesions not so commonly seen by the average practitioner of either medicine or dentistry. Its explanations are lucid and thorough, and many illustrations—photographic, roentgenographic, and microphotographic, some in color—firmly implant in the mind of the reader symptoms to look for in the various lesions dealt with.

As a book of reference it is indispensable for every practitioner, as very frequently it will be helpful in establishing a diagnosis of an intricate case. As a textbook for students of oral diagnosis or of oral surgery it should have an outstanding place, for it covers the subject thoroughly. From the simplest lesions, like dental caries, to the most complex oral diseases as well as the oral manifestations of systemic diseases, everything is treated most throughly, and methods for establishment of a correct diagnosis are outlined in detail.

SIMON SHAPIRO.

Lord Moynihan's Last Word

TRUANTS. The Story of Some Who Deserted Medicine Yet Triumphed. Based on the Linacre Lecture delivered at Cambridge, May 6, 1936. By Lord Moynihan, K.C.M.G. New York, Macmillan Company [c. 1936]. 109 pages. 12mo. Cloth, $1.40.

● This little volume taken from Lord Moynihan's Linacre Lecture delivered at Cambridge a few months before his death is evidence of his well known interest in medical history. In it he traces a long line of men who started in medicine but whose chief fame is founded on work done in other lines, sometimes parallel and sometimes widely divergent from their medical training. In the delightfully interesting style so characteristic of the author, he traces from Imhotep, adviser to the Pharaoh of the first pyramid to General Leonard Wood, who he says was the greatest colonial administrator America has produced. The book presents a long line of physicians who reached distinction in science, art, literature, law and statecraft.

Moynihan states at the conclusion that a scientific training is useful not only in an arduous scientific profession, but in all other callings into which a man may chance to wander.

He ends with the sentiment,—"I have gathered a posie of other men's flowers and nothing but the thread that binds them is mine."

The posie and the thread are well worth study.

E. K. TANNER.

Dr. Barker to the Public

LIVE LONG AND BE HAPPY. How to Prolong Your Life and Enjoy It. By Lewellys F. Barker, M.D. New York, D. Appleton-Century Company, Inc. [c. 1936]. 224 pages. 12mo. Cloth, $2.00.

● The title of this book—"Live Long and Be Happy" is sufficiently arresting to deserve some comment, especially when the

author happens to be none other than Lewellys F. Barker. We practitioners who of necessity are too concerned with the immediate problem of getting the sick person well are also apt to be too introspective to even reflect on the more ethereal problem of long life and happiness; for experience has repeatedly shown that individuals attain old age not as a result of the doctor's efforts, but often in spite of them. Moreover, happiness and old age do not necessarily run parallel, for life may be sweet even though it be short.

Now getting down to the text proper, except for about ten introductory pages on the statistical consideration of long life, practically the entire book is devoted to a cut-and-dried routine consideration of diseases such as one would find in a handbook of medicine. Doctors versed in such facts are not happier; nor do they live longer. Nor can such information do the lay reader any particular good, except to possibly make him more morbid.

The title of the book was obviously coined by the publisher to attract the reading public. A more appropriate heading based on its strictly professional approach would be—"Try and Live Long."

EMANUEL KRIMSKY.

A New Book on the Thyroid

THE THYROID. Surgery Syndromes Treatment. By E. P. Sloan, M.D. Edited by Members of the Sloan Clinic. Springfield, Charles C. Thomas [c. 1936]. 475 pages, illustrated. 4to. Cloth, $10.00.

● This readable and interesting book, edited by the staff of the Sloan Clinic of Bloomington, Illinois, summarizes the experience of the founder, Dr. E. P. Sloan, with about 20,000 cases which have been investigated by his workers and the 15,000 operated on by them since the organization of the Clinic in 1917.

This great wealth of material has been reviewed by a surgeon, but with due consideration of the opinions of the internist and the X-Ray therapeutist. There is, in fact, a full discussion of the medical and public health aspects of the problems of thyroid diseases.

To the 16 chapters, treating essentially with the thyroid, have been added chapters dealing with the parathyroid glands, the thymus and a historical article. There is a voluminous bibliography and an adequate index. The illustrations, many beautiful ones in color, are pertinent and descriptive. The book is a definite contribution of the study of the Thyroid, and has an appeal and an interest not only to the surgeon but to the internist and student of public health.

J. RAPHAEL.

On Surgical Diagnosis

DEMONSTRATIONS OF PHYSICAL SIGNS IN CLINICAL SURGERY. By Hamilton Bailey, F.R.C.S. Fifth edition. Baltimore, William Wood & Company [c. 1935]. 287 pages, illustrated. 8vo. Cloth, $6.50.

● This small concisely written book has been thoroughly revised and brought up to date. It contains practically every worthwhile physical sign dealing with each branch of clinical surgery and its specialties. While it was originally written for medical students, the general practitioner, and specialist alike, will be greatly assisted by the many helpful aids to problems and emergencies of everyday practice. Practically every physical sign described is illustrated by one or more excellent diagrams or photographs. Dr. Bailey's chief aim in this excellent book has been to teach the physician to rely upon his own wisdom and observations rather than to depend entirely upon laboratory and other auxiliary reports for a diagnosis.

JOHN F. RAYCROFT.

BOOKS RECEIVED

Books received for review are promptly acknowledged in this column; we assume no other obligation in return for the courtesy of those sending us the same. In most cases, review notes will be promptly published shortly after acknowledgment of receipt has been made in this column.

MEDICAL CLASSICS. Compiled by Emerson Crosby Kelly, M.D. Volume 1, Number 1, September, 1936. Baltimore, Williams & Wilkins Company, [c. 1936]. 78 pages, illustrated. 4to. Paper.

KEEPING YOUR CHILD NORMAL. Suggestions for Parents, Teachers and Physicians; with a Consideration of the Influence of Psychoanalysis. By Bernard Sachs, M.D. New York, Paul B. Hoeber, Inc., [c. 1936]. 148 pages. 12mo. Cloth, $1.50.

NUTRITIVE AND THERAPEUTIC VALUES OF THE BANANA. A Digest of Scientific Literature. Boston, United Fruit Company, [c. 1936]. 143 pages. 8vo. Paper.

THE PRACTICE OF MEDICINE. By Jonathan Campbell Meakins, M.D. St. Louis, The C. V. Mosby Company, [c. 1936]. 1343 pages, illustrated. 4to. Cloth, $10.00.

MEDICO-LEGAL ASPECTS OF FRACTURES. By Edward Adams, M.D. New York, The American Physician, Inc., [c. 1936]. 168 pages, illustrated. 8vo. Cloth.

THE 1936 YEAR BOOK OF GENERAL MEDICINE. Edited by George F. Dick, M.D., Lawrason Brown, M.D., George R. Minot, M.D. and others. Chicago, Year Book Publishers, Inc., [c. 1936]. 848 pages, illustrated. 12mo. Cloth, $3.00.

A HEALTH EDUCATION WORKBOOK for Teachers, Parents, Nurses, and Social Workers. By Kathleen W. Wootten, M.A. New York, A. S. Barnes and Company, [c. 1936]. 273 pages. 4to. Paper, $1.50.

THE TRUTH ABOUT BRIGHT'S DISEASE. By William R. Ohler, M.D. (Harvard Health Talks, 19) Cambridge, Harvard University Press, [c. 1936]. 80 pages. 16mo. Cloth, $1.00.

APPLIED DIETETICS. The Planning and Teaching of Normal and Therapeutic Diets. By Frances Stern. Baltimore, The Williams & Wilkins Company, [c. 1936]. 263 pages, illustrated, 4to. Cloth, $3.50.

THE 1936 YEAR BOOK OF GENERAL SURGERY. Edited by Evarts A. Graham, M.D. Chicago, Year Book Publishers, Inc., [c. 1936]. 831 pages, illustrated. 12mo. Cloth, $3.00.

INDUSTRIAL DUST. Hygienic Significance, Measurement and Control. By Philip Drinker, S. B. & Theodore Hatch, B.S. First edition. New York, McGraw-Hill Book Company, Inc., [c. 1936]. 316 pages, illustrated. 8vo. Cloth, $4.00.

SEX AND PERSONALITY. Studies in Masculinity and Femininity. By Lewis M. Terman and Catharine C. Miles. First edition. New York, Mcgraw-Hill Book Company, Inc., [c. 1936]. 600 pages. 8vo. Cloth, $4.50.

PLASTIC SURGERY OF THE NOSE. By J. Eastman Sheehan. Second edition, entirely rewritten. New York, Paul B. Hoeber, Inc., [c. 1936]. 186 pages, illustrated. 4to. Cloth, $9.00.

SKIN DISEASES IN CHILDREN. By George M. MacKee, M.D. & Anthony C. Cipollaro, M.D. New York, Paul B. Hoeber, Inc., [c. 1936]. 345 pages, illustrated. 8vo. Cloth, $5.50.

Occlusive Peripheral
VASCULAR DISEASE

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14. Scott, W. J. M., and Morton, J. J.: Differentiation of peripheral arterial spasm and occlusion in ambulatory patients. J.A.M.A., 97: 1212, Oct. 24, 1931.
15. Gibbon, J. H., Jr., and Landis, E. M.: Vasodilatation in the lower extremities in response to immersing the forearms in warm water. J. Clin. Investigation, 11: 1019, Sept., 1932.
16. Landis, E. M., and Gibbon, J. H., Jr.: A simple method of producing vasodilatation in the lower extremities. Arch. Int. Med., 52: 785, Nov., 1933.
17. White, J. C.: Blocking of sympathetic nerves to extremities with procaine. J.A.M.A., 94: 1382, 1930.
18. Morton, J. J., and Scott, W. J. M.: The measurement of sympathetic vasoconstrictor activity in the lower extremities. J. Clin. Investigation, 9: 235, October, 1930.
19. Brill, S., and Lawrence, L. B.: Changes in temperature of the lower extremities following the induction of spinal anesthesia. Proc. Soc. Exper. Biol. & Med., 27: 728, May, 1930.
20. Ipsen, J.: Les artères at l'anesthesie. Acta chir. Scandinav., 65: 487, 1929.
21. Cook, E. M., and Brown, G. E.: The vasodilating effects of ethyl alcohol on the peripheral arteries. Proc. Staff Meeting, Mayo Clin., 7: 449, Aug. 3, 1932.
22. Scupham, G. W.: Effect of theobromine on peripheral vascular disease; clinical observations. Arch. Int. Med., 54: 685, November, 1934.
23. Veal, J. R., and McFetridge, E. M.: Adequate circulation in the extremities. J.A.M.A., 104: 542, Feb. 16, 1935.
24. Knapp, J. C.: Arteriography. New York State J. Med., 35: 76, Jan. 15, 1935.
25. Allen, E. V., and Camp, J. D.: Arteriography: a roentgenographic study of the peripheral arteries of the living subject following their injection with a radiopaque substance, J.A.M.A., 104: 618, Feb. 23, 1935.
26. Allen, E. V., and Camp, J. D.: The value of arteriography. Radiology, 22: 578, June, 1934.

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Cultural Medicine
OLD TRAILS

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salient features. An intensive and continuous study of the hormones as begun by Bayliss and Starling in 1902 and in 1903 adrenalin was isolated by Takamine; after its composition had been indicated by Stolz in the following year it was possible to make it by synthesis. In 1905 Winter discovered its remarkable ability to stimulate the heart action. Although pituitrin was not to be isolated for many years Blair Bell showed the oxytocic power to extract of hypophysis in 1906. The efficacy of thyroid feeding in thyroid deficiency was known well back in the XIX century, but the true active principle, thyroxin, was not isolated until 1914 by Kendall, when it was found to be a great activator of metabolism. Its iodine content makes it doubtful as to the relative roles of an incretion *per se* and the iodine element. Remarkable results in thyroid deficiency could not have been attained from the use of iodine alone and yet this substance is able to prevent goiter and is used as a mass prophylactic in goited regions. Thyroxin was synthesized by Harington in 1925 and the synthetic form has been shown to possess properties which differ somewhat from those of the natural substance.

ASSOCIATED PHYSICIANS OF LONG ISLAND

Associated Physicians of Long Island to Hold Annual Meeting in Brooklyn, January 30, 1937

The annual dinner and clinical day for the Associated Physicians of Long Island will be held in Brooklyn, Saturday, Jan. 30, 1937.

St. John's Hospital, at 480 Herkimer St., at the corner of Atlantic and Albany Aves., will provide an all-day program of scientific events. This 234-bed general hospital maintains a school of nursing. Upon the medical staff are many members of our association.

The program for the day will be:

Clinical Session
10:30 to 1:00 P.M.

Thoracoplasty. Dr. John E. Jennings
Supracervical Hystertectomy. Dr. S. Lloyd Fisher
Full Thickness Skin Graft. Dr. George F. Sammis
Gastric Resection. Dr. Stanley B. Thomas
Pilonidal Cyst. Dr. Louis A. Thunig

11:00 A. M., demonstration of Radiograms of Interesting Cases. Dr. John C. Knapp.

12:00 Noon. Clinical Study of Problems in Urological Diagnosis and Treatment. Dr. Augustus Harris.

1:30 P. M. Luncheon—Guests of the Hospital.

2:30 P. M. Pathological Conference. Dr. Theodore J. Curphey.

3:00 P. M. Scientific Session by members of the staff.

(1) Chorea. Dr. Paul L. Parrish.
(2) Bilateral Orchidectomy with Retention of Libido and Potency—Symptomatology. Dr. Laurent Feinier.
(3) Bilateral Simultaneous Artificial Pneumothorax Therapy. Dr. Chas. E. Hamilton.
(4) Differential Diagnosis of Jaundice. Dr. Carl Greene.
(5) Case Report of a Superior Vena Cava Obstruction. Dr. Lowell Eckerson.
(6) Recent Advances in Anesthesia. Dr. L. Watter.

There will be a general discussion following each paper.

The annual business meeting will be held immediately following the scientific session. In addition to the election of officers for next year, important changes in the by-laws will be presented.

The dinner will be held at 6:30 in the Granada Hotel, Ashland Place and Lafayette Ave., near the Long Island Railroad station. The whole roof garden is reserved for our use and this arrangement is always popular. After dinner the members will be privileged to hear an interesting speaker who is director of Technocracy, Inc. You may not be aware that technocracy was more than a passing fancy—at least Mr. Howard Scott is going to tell you some of the trends. What is more, he will speak authoritatively. He will talk to us on the topic "And the Next Depression." Remember A.P.L.I. Jan. 30th.

THE USE OF CATHARTICS

OSCAR W. BETHEA, New Orleans (*Journal A. M. A.*, Oct. 17, 1936), states that the persistent tendency of the public to the use of purgatives is largely the result of the influence of commercial advertising. Some of the possible disadvantages are well illustrated in the recent statistics from the Charity Hospital at New Orleans covering acute appendicitis. It was shown that, of those patients receiving no purgative before operation, one in every ninety-six died; of those who had taken a purgative before operation, one in every eleven died; of those who had been the victim of repeated purgation, one in every four died.

INCIDENCE OF TRICHINOSIS IN SAN FRANCISCO

JAMES B. MCNAUGHT and EUGENE V. ANDERSON, San Francisco (*Journal A. M. A.*, Oct. 31, 1936), examined the diaphragms from 225 consecutive necropsies in five hospitals in San Francisco. Twenty-five were from new born infants and were negative for Trichinella spiralis. Twenty-three trichinous diaphragms were found in the first hundred cases and twenty-five in the second hundred, giving an average of 24 per cent for the series.

USE OF THE OUTPATIENT DEPARTMENT IN MEDICAL EDUCATION: NEWER POINTS OF VIEW

W. McKim Marriott, St. Louis (*Journal A. M. A.*, April 25, 1936), asserts that a properly organized and conducted outpatient department offers educational opportunities for the medical student, intern, practitioner, nurse and social worker which cannot be duplicated in the classroom, the hospital or private practice. The type of training that is offered in the outpatient department is absolutely essential for the complete education of the physician or nurse. An outpatient department of the right type is a model institution for the care of the patient, and this implies more than the mere relief of medical symptoms —it implies complete health service. The clinic should function not only to cure the individual when he is sick but to keep him well. Unless an outpatient department is properly conducted, it serves no useful purpose in medical education. Indeed, attendance of a student in a poorly conducted dispensary may actually be detrimental to him in establishing bad habits of cursory examination or inadequate handling of patients. The first and most important essential of an outpatient department is a competent staff. The keenest clinicians and the most accurate observers are those who should care for patients and teach in the outpatient department. In every division of the clinic there should be present daily at least one senior physician who serves as a consultant to the other members of the clinical staff and who actively participates in the teach- of students. Attendance in the outpatient department should not be below the dignity of the head of a clinical department. The staff must have available necessary facilities for as complete examination and treatment as is possible in the case of the ambulatory patient. Complete and accurate records filed so as to be readily accessible are as important in the outpatient department as in the hospital. It is most desirable that the outpatient record should be continuous with the hospital record for those patients who are hospitalized. An outpatient department is to be judged by the character of the work done rather than by the size of its clientele. It is essential therefore that the clientele be strictly limited to the number of patients who may be adequately examined. When a patient applies to a clinic for treatment, it is the duty of the clinic not only to relieve the chief complaint but to make a complete health appraisal and to investigate the patient's past history for any circumstances that might reveal the existence of conditions other than those which impel the patient to seek medical advice. After the complete examination of the individual, which means more than the detection of physical signs, he should be referred if necessary to special clinics for examination or specialized methods of treatment but should in any event report back to the original examining physician for interpretation of the results and complete recommendations as to care and treatment. It is this original examining physician (or student) who acts in the capacity of the patient's family physician. If the patient has to be hospitalized, the clinic physician or student should if possible continue the care or at least observation of the patient. After relief of the prominent symptoms the patient should not be "discharged." He should continue to return at intervals for periodic check-up. This is the true ideal of the health clinic for the application of the principles of preventive medicine. An outpatient department organized as outlined provides the ideal training ground for the medical student or physician. A student working in the proper type of outpatient department quickly learns the importance of the personal relationship between physician and patient. He learns the importance of the complete examination of the patient and is therefore not likely to develop into that type of specialist who sees but a single region of the body separated from the remainder, the type of specialist who tends to bring specialization into disrepute. Every patient needs a personal family physician who will be intimately acquainted with his whole history and surroundings and who will be able to advise the patient when the services of a specialist are necessary and interpret to him the recommendations of the specialist. It is while working in the general medical clinic that the student learns to play the rôle of the patient's family physician. Later he learns to appreciate the proper place of the specialists and the attitude of specialists of the better type toward the general care of the patient. In the clinic the student also learns the value of the health clinic and the periodic physical examination—he learns in a very practical way preventive medicine in the antepartum and well baby and dietetic clinics. There is no better place to obtain first hand information concerning certain phases of medical economics than in a good outpatient department.